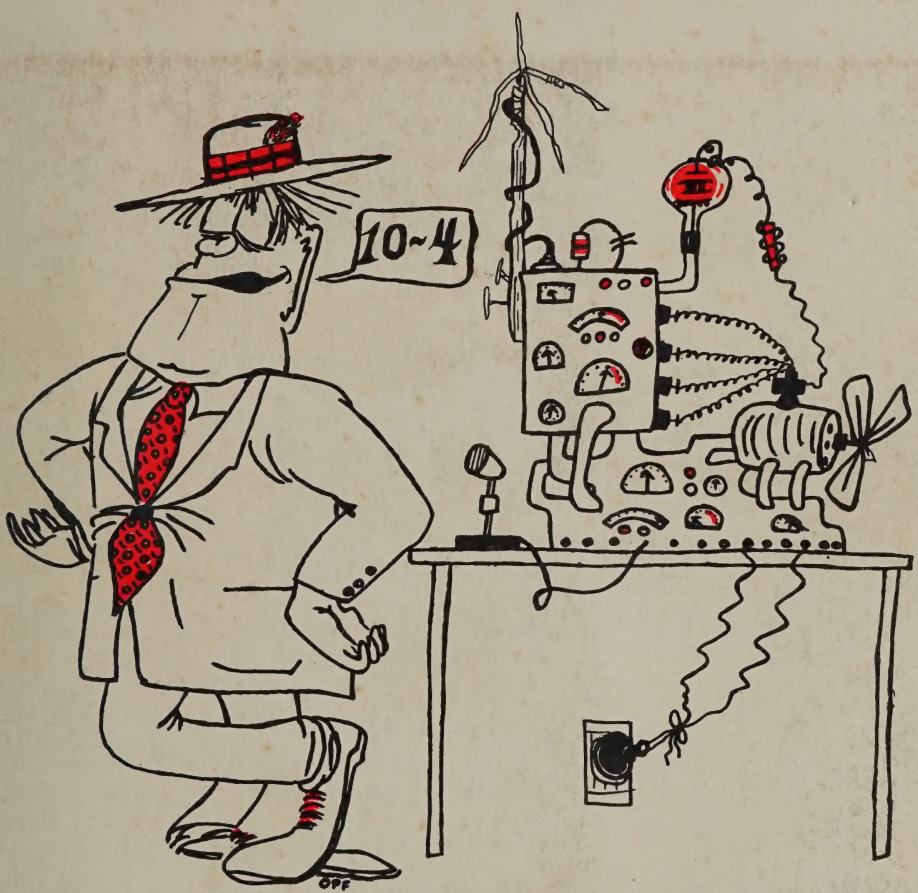
CB HORIZONS

September 1961
40 CENTS

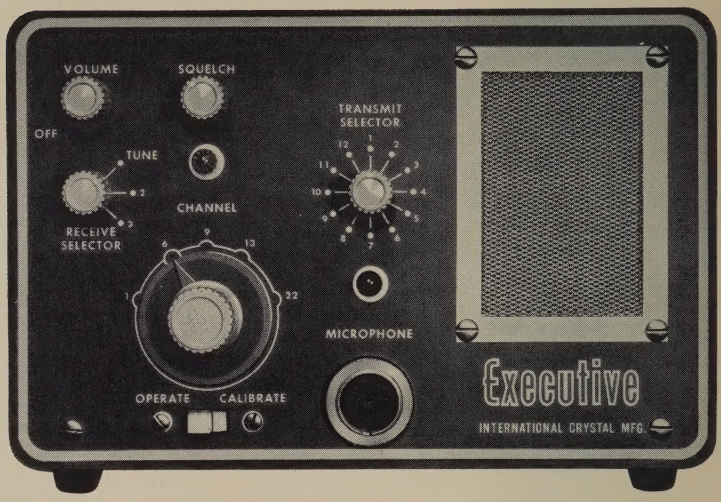


FIX UP YOUR STATION ISSUE!

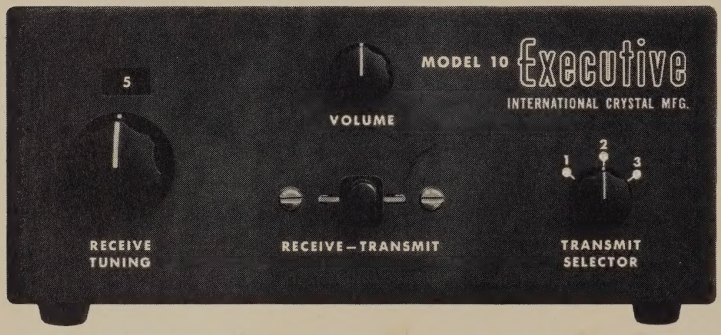
DEVOTED ENTIRELY TO CITIZENS BAND RADIO

IN THIS ISSUE—

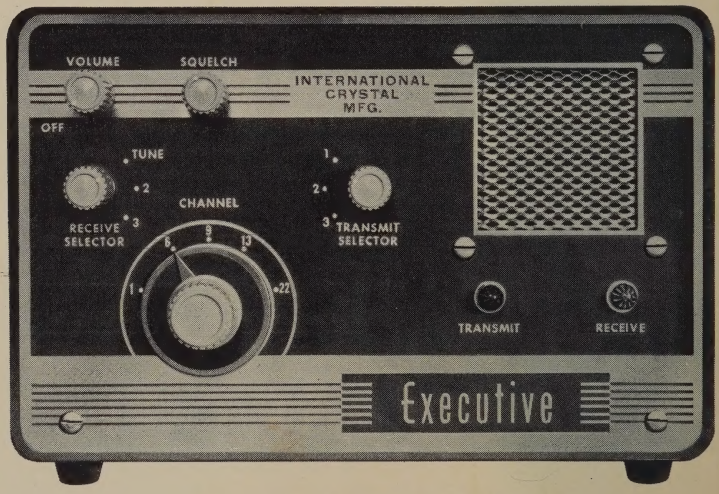
Simple Repairs You Can Make • All About Crystals • Getting The Most From Your Antenna • Hot-Shot Tubes • Build A Simple But Effective Receiver Signal Booster • New Sunspot Predictions . . . and much much more!



MODEL 100



MODEL 10



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new series Executive

for SUPERIOR Citizens band communication

INTRODUCING THREE SYSTEM-ENGINEERED TRANSCEIVERS

MODEL 100

The ultimate in Executive Citizens transceivers. NEW crystal filter which minimizes adjacent channel interference in the receiver. NEW built-in receiver calibration circuit. NEW International NR squelch. NEW 12 position crystal control transmit channel selector. NEW front panel microphone jack. NEW provision for connecting external speaker and S/meter. Dual conversion superheterodyne receiver. Push-to-talk operation. Three way power supply for 6/12 vdc, 115 vac. **Complete with 1 transmit crystal, 1 receive crystal, new style ceramic microphone and coil cord..... $199.50 ***

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International's exciting NEW *Compact* transceiver for the budget minded customer who desires quality workmanship and engineering plus the best possible circuit for the money invested. Field tested full 5 watt transmitter contained in the higher price Executives. Tunable superheterodyne receiver covering all 23 channels. Three position crystal control transmit channel selector. Manual transmit-receive control. Noise limiter. Available accessories include four separate power supplies — 6 vdc, 12 vdc, 24 vdc or 115 vac, push-to-talk relay kit, squelch kit, and 12 position transmit channel selector. **Complete with 1 transmit crystal, matching microphone and external speaker, but less power supply..... $59.50 ***

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A precision engineered transceiver featuring push-to-talk operation. Three position crystal control transmit channel selector. Dual conversion superheterodyne receiver tuning all 23 channels. Series Gated automatic noise limiter. NEW International NR squelch. Three way power supply — 6/12 vdc, 115 vac. Additional features of Model 100 are available as accessories, and may be added at any time. **Complete with 1 transmit crystal, matching microphone..... $149.50 ***

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Modesto Mike's Mailbox

Dear Mike –

Congratulations on your excellent August issue. Although I usually am interested only in shortwave, as we don't yet have CB here in Canada, I can still see the advantages of having such a service.

Jack P. Hughes
Montreal, Que.

OK Jack, by the way, the latest word on Canadian CB is that it will be known as the "General Radio Service" and will occupy the spectrum from 27.000 mc. to 27.230 mc. (our Channels four through twenty-three). Looks as though, rather than awarding "type acceptance" seals to manufacturers, the DOT (Canadian FCC) will issue "manufacturing licenses" directly to the companies who will be building the rigs. Possibility is that only Canadian companies will be eligible for licensing. Oh, the Canadian Amateur stations will still operate from 26.960 mc. through 27.000 mc. *Mike*

Hey Mike –

Well now! We really went all the way on the August issue didn't we? I'm just plain mad! It's bad enough that you cover CB, but to leave out your shortwave DX column altogether!! Then you go and mention (on page 39) the name of $%&() Wayne Green, who doesn't dig SWL's and DX listeners at all.

How much longer before we SWL's get the axe? Please tell me if you are planning on any more DXing coverage for SWL's.

Gerry L. Dexter
Waverly, Iowa

Gerry,I'm told that it is the duty of a magazine to give its readers what they want. Most of our readers not only want more CB coverage, they don't want SWL material displacing it.

We dropped our shortwave column for several reasons. For one thing, we learned that our Editor for SW stuff was negotiating with another publication. When we heard this we just made his decision a little easier by making him fully available.

Secondly, when the SW column didn't run in August it was not the final move on our part, it was a "test" to see what would happen. The Result? Out of 55,000 readers we received mad letters from fewer than fifty SWL's. The CBers reaction can best be summed up by the CBer who called T.K. from Warren, Mich., to tell him that a bunch of the local CBers had chipped in to pay for the call to let CBH know how happy they were that they finally had "their own" magazine.

As for Wayne Green, the Editor-Publisher of the hams' 73 MAGAZINE, why pick on him? You were around in 1958, Gerry. Where were you when the February 1958 issue of CQ Magazine (Wayne used to edit CQ) came out and Wayne asked SWL's to let him know if they wanted a column in that publication (see page 104 that issue). Guess you and the other forty-nine SWL's couldn't convince Wayne – and you didn't do such a good job with us. *Mike*

Dear Mike –

We understand that your magazine has adopted the "11 METER LEAGUE" of Southern California as your official organization. Is this true?

Bob Cooper, 18A7297
Editor, CB Pioneers News
Elkhart, Ind.

Bob Cooper?? That's a familiar name! Anyway, Bob, contrary to what you (and many other CBers) may have heard, CBH has not "adopted" any group as an official organization. We have visited with the Southern California gang several times and think that they are a fine bunch, but that's as far as its gone. We have done the same with many groups. T.K. and our own Bob Cooper ask that in the future clubs check with us before announcing adoption by CBH.

CBers! Why not write articles for CBH? If you have something to say about a better way of using your equipment, a new construction project, etc., and can supply photos, your name can be immortalized on our pages. Pick up some money to put towards your "Dream Rig." Write to Tom Kneitel, our Editor.

Mike

In conjunction with our

Bonus Subscription Drive

we are announcing . . .

the **CB HORIZONS ACQUISITION** of the **CITIZENS BAND CALL-BOOK**

from International Crystal Company, Oklahoma City, Oklahoma

YES . . . the rumors you have heard are true! CB HORIZONS has purchased the rights to publish "The Citizens Band Call-Book" effective with the 1962 edition!

This means that YOU . . . as a CB'er . . CAN RELY ON HORIZONS PUBLICATIONS FOR ALL OF YOUR LITERATURE . . . your monthly CB magazine, and your yearly CB Call-Book and CB Station Handbook!

LOOK AT THESE FEATURES NOW BEING PREPARED FOR THE 1962 CALL-BOOK
(available January 20, 1962)

(1) A complete listing of all CB Class D stations licensed in 1961 (January 1 through December 31).

(2) **PLUS**

- ★ A **complete** CB equipment directory (actually an up-dated version of our already famous August CBH) listing every transceiver, antenna, crystal, microphone and accessory manufactured for Class D radio.
- ★ A large and complete technical section, all about improving your station, building antennas, meters, crystal spotters, checkers, test equipment . . . the works! Practically everything you will need to know for making your station the most efficient on 27 megacycles for miles around. Pages and pages of "do-it-yourself" construction projects!

ALL OF THIS IN THE 1962 "Citizens Band Call-Book" from CB Horizons Magazine!

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Here is how you place your order today for the 1962 CB Call-Book — WITH NO MONEY DOWN . . . and subscribe to CB HORIZONS at the same time. This is a limited offer . . .you must act today! Turn over this card for full details.

SAVE ONE DOLLAR by subscribing to CBH and reserving your copy of the 1962 CB CALL-BOOK TODAY!

(1) Subscribe to CB HORIZONS using the form below $4.00
(2) Place your order for the 1962 Call-Book using the form below 3.95

TOTAL PRICE $7.95

NOW—As a special reward for your promptness, you may deduct $1.00 from the total price above.

SPECIAL COMBINATION OFFER PRICE ..... **TOTAL $6.95**

(includes 12 **or more** issues of CBH and the 1962 Call-Book)

DO NOT SEND THE FULL PRICE . . .

(3) Return the form below with $4.00 **TODAY** and we will bill you for $2.95 in December, just before the Call-Book comes out!

THIS OFFER EXPIRES SEPTEMBER 10, 1961 AND WILL NOT BE REPEATED

(Tear off and airmail to CB Horizons Magazine, Post Office Box 3150, Modesto, California)

Dear CBH:

I have checked off the proper lines below ordering 12 or more issues of CBH, and reserving my copy of the 1962 Call-Book. Please bill me for the remaining $2.95 in December. I understand the Call-Book will be mailed to my station on or before January 20, 1962.

---------- Enclosed $4 for **15** issues of CB Horizons and reserving my copy of the '62 Call-Book. **I am mailing this form before August 22nd.**

---------- Enclosed $4 for **14** issues of CB Horizons and reserving my copy of the '62 Call-Book. **I am mailing this form before August 27th.**

---------- Enclosed $4 for **13** issues of CB Horizons and reserving my copy of the '62 Call-Book. **I am mailing this form before September 5th.**

---------- Enclosed $4 for **12** issues of CB Horizons and reserving my copy of the '62 Call-Book. **I am mailing this form before September 10th.**

(Note: **If you do not wish to purchase the Call Book, merely cross out the appropriate line on the subscription form above.**)

My Name..... **CB Call**.....

Address.....

Town—City..... **Zone**..... **State**.....

AIRMAIL TODAY to: **CB HORIZONS MAGAZINE**
P. O. BOX 3150
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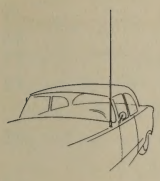
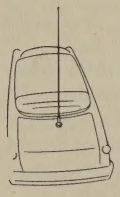
HY-GAIN TOP LOADED STAINLESS STEEL WHIP FOR CITIZENS BAND

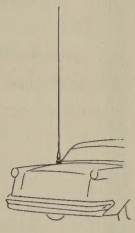
This new mobile whip utilizes the exclusive "top-loading" design with polyethylene enclosed coil capsule sealed permanently to the top portion of the stainless steel whip, and nearly its same diameter.

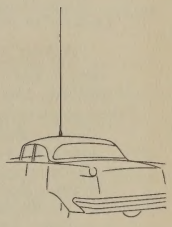
This feature raises he radiating portion of the whip to the highest point, increases resistance to perfect 52 ohm match, and allows for higher mounting on vehicle — all increasing the superiority of performance. Overall height is only 50". Rugged and ready for any climate or weather.

Four models are available for a variety of mounting arrangements.







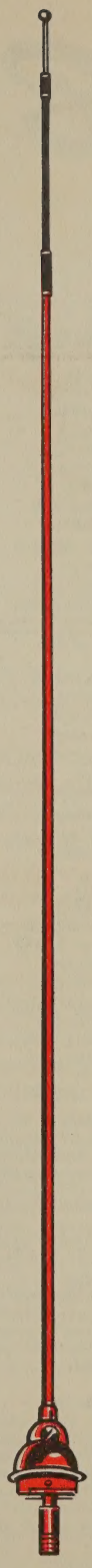


TWL-M: with chrome-plated, single hole, top mounting body mount.

TLWT-M: identical to TWL-M but in three sections for telescoping down to 28".

TLW: with standard 3/8"x24 threaded base stud for use with adaptive mounts.

TLWT: identical to the TLW but in three sections for telescoping down to 28".



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VOLUME 1 • NUMBER 4

CB HORIZONS

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EQUIPMENT REPAIRS THE CBer CAN DO

By Charles Hartley, 13W0274
FCC 2nd Class Phone Licensee PZ-12-3419

Although the Class D Citizen's Band is new compared to the other services and much of the equipment now in use gives little trouble, it won't be long until repairs will be necessary. The average CBer can cut maintainence costs and improve his communications, where repairs and adjustments are minor and non-technical, by doing it himself.

The scope of this article is for the untrained do-it-yourselfer. He will be able to pick up many pointers which will help to prolong the life of his equipment by applying preventative maintainence procedures. One important point should be kept in mind however, the FCC licensing restrictions have to be met and the do-it-yourselfer should use restraint as to how much maintaining he does for himself.

The CBer need not invest large sums in test equipment. However, the following could be very useful:

1. Inline wattmeter or field strength meter.
2. Tube checker.
3. Multimeter.
4. Dummy load.

The inline wattmeter is an instrument that is connected between the antenna and the transmitter in the transmission line by means of a suitable patch cable. It measures the power being transmitted and tells how the antenna is functioning, a must for optimum antenna and transmitter adjustment.

The field strength meter picks up radiated r.f. energy and indicates its relative strength on a meter. It is handy for tuning antennas and transmitters when an inline wattmeter is not available.

The tube checker is self-explanatory and any type used for TV and radio repair is suitable.

A multimeter or "VOM", as is commonly called, is used to measure a.c.-d.c. voltages, d.c. currents, ohms and continuity. A 20,000 ohms/volt instrument should be used when possible.

The servicing procedures are the same with communications equipment as is with other electronic equipment, with one exception: the frequency tolerances are much closer and accuracy is most important. Also, when testing that transmitter, KEEP IT OFF THE AIR by using a dummy load unless tuning the antenna! Keep in mind, too, that the time limit requirements apply when tuning that antenna. So, keep your tests short.

When there is trouble, spend a little time to determine where the trouble lies. Many times an inexperienced person will confuse a faulty receiver with transmitter trouble and vice-versa. Ask yourself, "could my base hear me," "can I hear my base?" This will give you a starting point for your trouble shooting and save you time later.

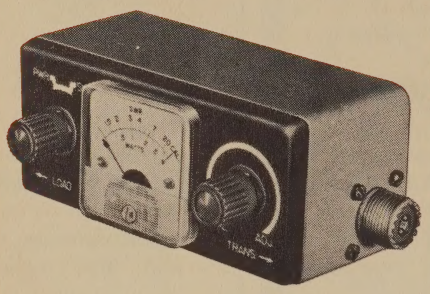
Before You Start

Check the operation of the unit before you start, paying attention to control settings, antenna and mike connections, etc. Check ground and battery connections making sure they are clean and tight. Check for a blown fuse and make certain the holder is tight.

Don't guess . . . be sure of peak CB performance with

MicroMatch®

CITIZENS BAND POWER & SWR METER



Model 290

ONLY $26.50

This compact, inexpensive MicroMatch Meter makes it easy to tune transmitter and antenna for maximum power output. It measures *actual* RF power output on an accurately calibrated 0-4 *watt* scale and standing wave ratio on an SWR scale.

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Your local communications equipment dealer carries this efficient meter. See him today.

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With an inline wattmeter connected in the transmission line, you can determine at a glance the power output, condition of the antenna system, and the transmission line. Many times burned out tubes are at fault, thus easing the service necessary. If the vibrator is bad it will be necessary to remove the unit for bench repair. A word of caution: use discretion in tuning adjustments made without the proper equipment and experience.

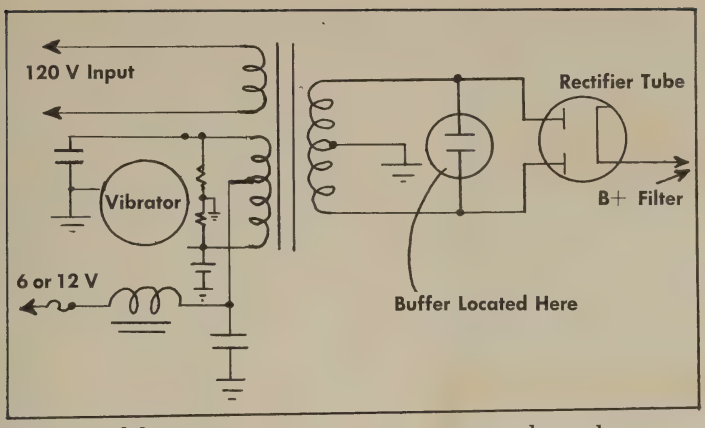
Basically, electronic trouble shooting consists of an established check out procedure and lots of common sense. However, the CBer should limit his trouble shooting and adjustments to: the adjusting of the antenna and transmission line, the transmitter output loading and tuning, the receiver r.f. input adjustment, checking and replacing of tubes, vibrators and components of the power supply. Do not tinker with circuitry of the transmitter's oscillator or multiplier-driver stages in any way or violations of the FCC rules may result.

Receiver Problems

If the trouble lies in the receiver, check and replace all weak or shorted tubes. Check the receiver crystal oscillator by connecting a 100K ½W resistor to the negative (-) lead of the multimeter, with the positive (+) lead connected to the chassis, and the free end of the resistor connected to the control grid of the oscillator tube. With the meter on the lowest d.c. voltage scale, a voltage is present if the stage is operative. If it isn't, replace the crystal with one known good and recheck.

Many times a good visual check of components will lead to a burned resistor or shorted wiring. Parts always fail for a reason. Before replacing a faulty component, determine why it failed. There may be other trouble that caused that part to burn out. Do not replace a part unless you know why you are doing so. Do not cut and resolder connections unless absolutely necessary as this can cause you more trouble due to poor connections that previously existed. Replace burned or faulty components only with the exact replacement parts or manufacturers suggested substitutes.

A good rule is to leave i.f. and r.f. tuning adjustments alone. Better yet, leave this to a qualified and licensed technician. (The r.f. input coil in the receiver is an exception.)

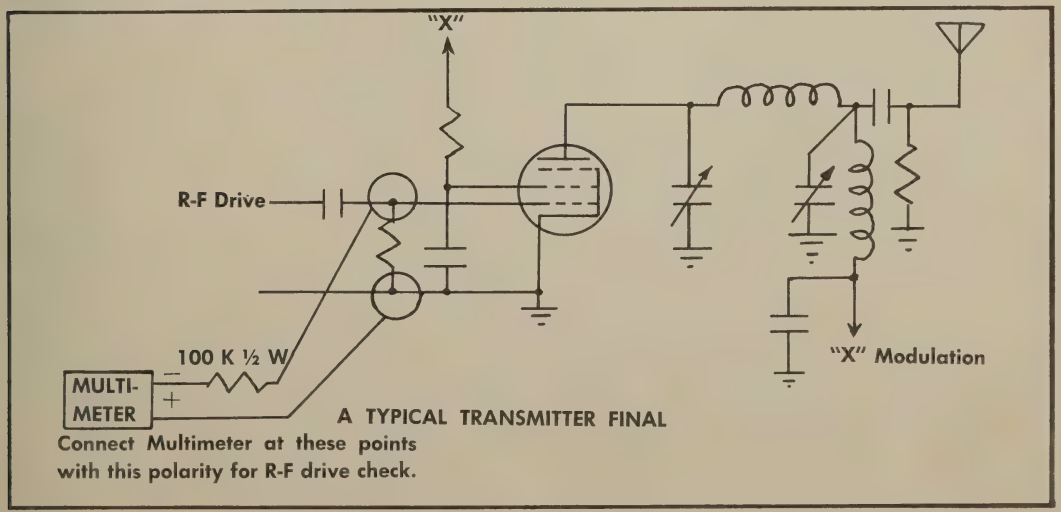


A TYPICAL VIBRATOR POWER SUPPLY

Transmitter Problems

If the trouble lies in the transmitter, connect the inline wattmeter between the transmitter and a dummy load. In a pinch, a No. 47 pilot lamp can be used as a dummy load and indicating device. If there is no output power when the transmitter is energized, check the contacts on the changeover relay and clean if necessary. Contact points may be cleaned with fine sandpaper or a very soft cluse mesh steel file. Do not exert very much pressure – a few strokes are usually sufficient. Be sure to clear all filings from the relay when finished. Check the tubes and replace any that are weak or shorted. Use the multimeter to check voltages, especially the final grid control voltage as outlined earlier for the receiver crystal oscillator. This voltage should be negative. If there is no drive, replace the crystal with one known to be good and check again for the negative votage at the final control grid. If this does not work, look for a faulty component by standard checkout procedure. *Caution:* never permanently replace a transmitter crystal or adjust the oscillator tuning adjustment without the aid of a qualified technician. As the frequency tolerance is only .005% of the channel frequency, an improper crystal or a misadjustment of the oscillator circuit can cause off frequency operation. (*Editors Note:* See special article, this issue, "The CRYSTAL BAWL.") Crystals recommended by the manufacturer or acceptable substitutes should always be used and when adding new channels to present equipment, it is advisable to have the necessary adjustments and the frequency checked by a licensed technician.

The audio and modulator circuits are usually common so when one is functioning properly, so is the other and vice-versa. Checking the tubes, components and voltages will solve most problems. Mikes can be troublesome so when there is no modulation, don't overlook the mike and the cord. Sometimes a dirty changeover relay will cause intermittent modulation so a check here can save you some time.



A TYPICAL TRANSMITTER FINAL

Connect Multimeter at these points with this polarity for R-F drive check.

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6 colors to choose from . . . blend with every interior.

Slightly larger than a standard telephone this *handsome* citizens' band radio looks good anywhere . . . *home, industry, mobile, marine, aircraft,* etc. Engineered and designed for reliable continuous communication by experts in this field. Specs. exceed F.C.C. requirements . . . and it's priced in line . . . $179.00
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OFFERS THESE FEATURES:

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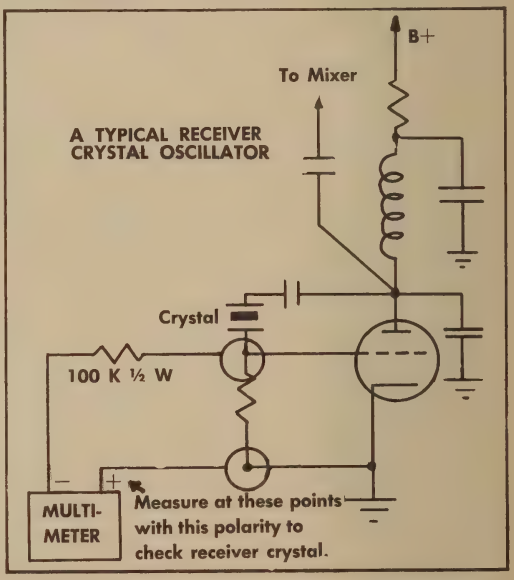
If a vibrator is faulty, check the buffer capacitor and rectifiers before replacing with a new unit. This precaution will eliminate damage to the replacement vibrator. The buffer capacitor is located across the high voltage secondary winding of the vibrator transformer. If you have no means of checking this capacitor, a good practice is to replace it whenever a vibrator is replaced.

After the repairs are completed and the unit is returned to the vehicle or base, check the following before you finish the job:

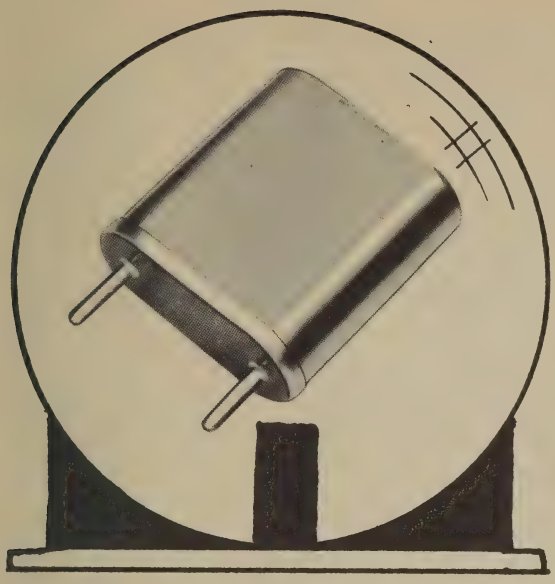
1. *The power input* making sure FCC restrictions are met. Also, check the antenna standing wave ratio and power output (about 1.5-2 watts is normal.) and adjust if necessary.
2. Air check the receiver and peak the r.f. input stage if necessary.
3. Check modulation by communicating with another station.
4. Check all external chassis ground connections.



5. See that the FCC Form 452-C card is securely attached and filled out properly.

It is recommended that these checks be made periodically as well as having your frequencies checked at least once a year. Remember, if this procedure is followed peak efficiency will be maintained at all times, fewer FCC violations will occur, less interference and more efficient use of the Citizen's Band will be realized.

Keep the eleven meter Citizen's Band orderly and we will all benefit! 10-7



THE CRYSTAL BAWL

By Tom Kneitel, 12Q1747

Very often we hear from CBers who have quite suddenly come to the rude awakening that they are off frequency, despite the fact that they have a "guaranteed .005 percent accuracy" crystal plugged in their transmitter.

The cry has gone up to explain why this is possible and give the answer to the question, "Is crystal interchangeability possible?"

We wish to thank the following companies for their kind cooperation in making the facts contained in this material available to CBH readers: General Crystal Co., General Radiotelephone Co., International Crystal Mfg. Co., James Knights Co., Petersen Radio Co., and Texas Crystals.

You own two CB rigs, an International Crystal EXECUTIVE and a Knight C-27. Wishing to change your operations, you decide to remove the Channel 11 transmit crystal from the International and use it in the Knight.

Upon removing the International crystal from its socket you notice that the frequency "13542.5" is stamped into the casing. You notice, however, that the Knight C-27 crystals are ground for 27 mc., obviously there is a difference in the transmitting circuits of the two units which makes the swap impossible.

Fine, you decide against it. The following day you meet a friend who uses a Lafayette HE-20A. He wants to discontinue his Channel 11 operations and offers you his 11 rock at a bargain price. You examine it, it is stamped "27.085," and the deal is made. You immediately commence operation with the Lafayette crystal in the C-27.

Bingo! A week later you're sitting with an FCC "pink ticket" in your hand, tearfully condemning your ex-friend who pulled the wool over your eyes by selling you a "bum crystal."

Here's a shocker! The crystal could have been good! So where's the rub?

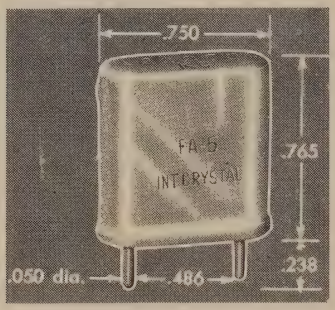
The problem stems from the fact that the drive level and load capacitance of the various manufacturers oscillator decks will produce frequency differences even though the crystal frequency is the same. Fig. 1 is a graph which shows this point.

A Channel 10 crystal in a series oscillator (Johnson Viking Messenger) was used as the basic "on frequency" standard. The load capacitance was varied using other manufacturers' oscillator circuits. Note that this same crystal moves 2250 cps off frequency. This, coupled with the normal crystal manufacturer's .005 percent tolerance could produce a 3600 cps off-frequency condition. Remember that .005 percent tolerance on Channel 10 is 1354 cps on each side of 27.075 mc., and you could be well over two kc. out of tolerance.

The majority of CB crystals are furnished in what are commonly known as "HC-6/U" holders. These holders (The Petersen Radio Company calls them "Z-9R" holders, the International Crystal Mfg. Company calls them "FA-5" holders) are about ¾ inches high and

¾ inches wide. The pins are .050 inches thick and are spaced about ½ inches apart.

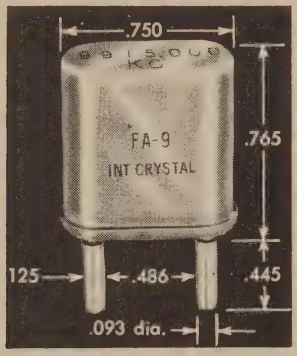
Another crystal which sometimes shows up in CB rigs is the so-called "HC-17/U" or "FT-243" type (Petersen "Z-1", International Crystal "FA-9" type) which has .125 inch pins about one-half inch apart.



This is an HC-6/U crystal showing the dimensions.

Same handie talkies utilize sub-miniature crystals. These are the HC-18/U, with .018 inch diameter pins and the HC-18/W with wire leads instead of pins, HC-18/W crystals are wired into the circuit of the transmit-

(Continued on page 20)



The HC-17/U crystal is found in a number of CB rigs, note that it is similar to the HC-6, but has thicker pins.

CRYSTAL CHART

Manufacturer	Model	Transmit	Receive	Crystal
Acton Lab		A	J	V
Acton Lab	TCV271-3	A	G	V
Airline		B	J	V
Airtone		B	J	V
All State		B	N	V
Apelco		B	J	V
Arkay		C	M	V
Bendix		B	Q	V
Biggs (LaSalle)		C	J	V
Browning	S-9	C	—	V
Browning	Mobilaire	B	L	W
Chickasha		C	—	V
Commercial	SSTR	C	—	V
Dare		C	J	Y
DeWald		C	—	V
Dixon		C	—	V
Dorsal		C	J	V
Edco	Unicom	B	I	V
Eico		C	Z	V
Electra Int'l	Minifone 400	C	J	Y
Elmac	Palifone	C	J	V
Fornaire		C	K	V
Gen. Radiotel.		C	J	V
Globe	CB-100	C	S	V
Globe	CB-100A	C	M	V
Globe	CB-200	A	S	V
Globe	Pocketfone	C	J	Y
Gonset		B	Q	V
Grove Elect.		C	—	V
Hallicrafters	CB-1	A	J	V
Hallicrafters	CB-2	C	Q	V
Heath	CB-1	C	—	V
Heath	GW-10	C	M	V
Heath	GW-30	C	—	W
Int'l Crystal	Executive	B	E	V
Int'l Crystal	Executive 50	B	F	V/Y
Int'l Crystal	CTZ-5A	B	U	V
E. F. Johnson		C	J	V
Kaar	TR326A	B	R	V
Kaar	TR330	C	M	V
Kay Townes		B	U	V
Knight	C-11	C	—	V
Knight	C-27	C	D	V
Lafayette	HE-15A	C	—	V
Lafayette	HE-20A	C	Q	V
Lafayette	HE-29	C	J	V
Lakeland		B	?	V
Lakeshore	55	C	P	V
Magnavox		C	J	V
Magnolia		C	H	V
Maxwell		C	M	W
Miratel		C	J	V
Morrow		B	K	V
Multi-Elmac		C	J	V
Osborne	Duo-Comm 100	C	?	Y
Osborne	300	C	M	Y
Pearce Simpson		C	K	V
Philmore		C	—	V
Polytronics		A	T	W
Radifone		B	J	V
Radio Corp. Amer.		C	Q	V
Radio Shack	CBK-1	C	M	V
Radson		C	Q	V
Ray Jefferson		C	—	V
Raytheon		B	J	V
Regency		C	—	W
RME	4303	C	—	Y
RME	4305	B	Q	V
Shell		C	—	V
Sonar		C	J	V
Springfield		C	—	V
(Stoner)		C	—	V
Tecraft		B	U	W
Tel. & Electronics		C	Q	V
Transcendor		C	J	V
Transpace		B	Q	V
United Sci. Lab.		C	Q	V
Utica		C	S	V
Vanguard		C	—	V
Vocaline	ED-27	C	L	W
Vocaline	ED-27M	A	L	W
Webster		B	J	V

KEY TO CRYSTAL CHART

Transmit Crystal is:

A—⅓ of operating frequency.
B—½ of operating frequency.
C—Same as operating frequency.

Receiving Crystal is Operating Frequency:

D—minus 23065 kc.
E—minus 20635 kc.
F—minus 10000 kc.
G—minus 4455 kc.
H—minus 1605 kc.
I —minus 500 kc.
J—minus 455 kc.
K—$\frac{\text{minus 455 kc.}}{3}$
L—31000 kc.
M—plus 455 kc.
N—plus 1640 kc.
P—$\frac{\text{plus 1640 kc.}}{3}$
Q—plus 1650 kc.
R—$\frac{\text{plus 1650 kc.}}{2}$
S—plus 1680 kc.
T—plus 6000 kc.
U—plus 18000 kc.
Z—minus 1750 kc.

Crystal Holder type:

V—HC-6/U .050 dia. pins
W—HC-17/U .093 dia. pins
X—HC-18/U .018 dia. min. pins
Y—HC-18/W min. with wire leads

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- Inductively coupled phasing transformer provides proper resonance over entire Citizens Band.
- *VERY* low noise pick up.
- Direct ground for lightning protection.

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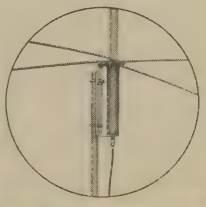
- Dual Clamping for mast or direct into wooden area (side of house, etc.).
- Exceptionally easy to install.
- 18 ft. overall height . . . 54" radials.
- Beautiful appearing.



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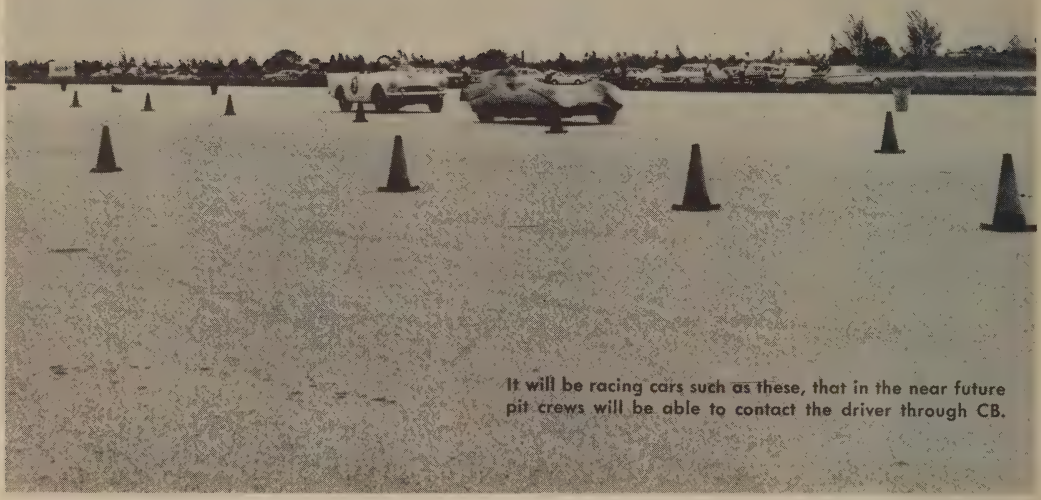
CB and the Sports Car



It will be racing cars such as these, that in the near future pit crews will be able to contact the driver through CB.

By Herb Goldberger Jr., 7W2743

If anyone is listening to CB a certain Sunday afternoon when skip is quite heavy, they are bound to hear a slightly different conversation which we should point out is definitely not radio lingo. Don't be confused, it's only a local sport car club using CB during a race.

First introduced in the Miami area by members of The Metropolitian Dade County Citizens Radio Club, communications of this nature were found to be more helpful than the old type "GI phone" which the racing clubs were using.

There are five excellent reasons why CB is better suited for races than telephone communications:

1. A driver who loses control of his vehicle can tear up the telephone lines.

2. CB will give immediate protection against fire and bodily injury to a driver if the mobiles' base unit is located near a fire truck and ambulance.

3. A roving mobile unit can control crowds in the pit area.

4. Mobile units can be scattered throughout the course and at every dangerous curve.

5. Course flagmen can be notified immediately through a runner stationed with each mobile unit in case of a rule infraction by a driver.

It must be understood that CB cannot prevent an accident from happening but the units can insure immediate action in case of an injured driver.

While on the subject of CB at the races, this brings up the possibilities of a unit in the racing car and could the driver be notified by his crew?

To my knowledge, there is but one MG-A driver who anticipates the use of CB equipment to be used during a race.

He is planning to use a squelch controlled unit that can be placed under the dash by bolting through a set of straps with the aid of a wooden cross-bar and a flat aluminium rail. The rail can be bent into position to be used as a brace to the floorboards. The rig will set far enough underneath to prevent bruising his hands when shifting.

A set of head phones will be installed in his racing regulation helmet.

The antenna that he plans to use will be a

Bob Jernigan, 7W1150, directing CB mobile units into proper position for the start of a race. The rig is an RCA, with a handset to limit noise from the passing cars.

Lafayette HE-19, telescoping whip, and can be attached on the left rear fender as low as possible to prevent wind resistance.

Motor noise is less prominent in an MG-A than other sport cars but to be on the safe side he intends to use a generator suppressor and shielded cable to eliminate as much noise as possible.

The pit crew using a mobile unit or a direct hook-up from the track generator will transmit to the driver at all times. He will use only hand signals to notify that he received the message and will transmit only in case of extreme emergency.

CB mobile units are used to control this size of a crowd, in the pit area's, during sport car racing.

This of course is all in an experimental stage at the present time but the driver believes that CB sooner or later will be used by himself and other drivers for racing purposes.

One more thing that is food for thought. With a little planning, a CB unit installed in a foreign or sports car can leave you plenty of leg room for both driver and passenger and the unit will not interfere with leg movements when getting in and out of the car.

This writer can vouch for that as we had a Lafayette HE-15 in our MG-A and there was no interference whatsoever. We also believe that any type CB unit can be installed in any small car. 10-7

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ANTENNA TOPIX

Tuning for Maximum Output

When the 27 mc. CB operator looks to improve his coverage, his thoughts should turn to a more effective antenna system.

We naturally assume that most operators are running their rigs at the legal five watts input, and are probably enjoying between two and three watts output. As brother Jim Gibson pointed out in his column in CBH last month, if you are going to "soup up" your transmitter, the rig is not the place to start! After all, as the following chart shows, you have to go to twenty watts input to increase your signal at the other fellow's receiver by one measly S unit, and to increase your received signal by two S units, you must increase your input power to eighty watts!

Power In	Power Out	"Distant" S Meter Reading
5 watts	2.5 watts	S6
10 watts	5 watts	S6.5
20 watts	10 watts	S7
40 watts	20 watts	S7.5
80 watts	40 watts	S8
ad infinum		

The antenna, however, is a different story. Regardless of the type of antenna in use at your base station, its performance is dictated entirely by a simple set of installation procedures which you probably have not followed. The net result could be diagram one, which shows seventy-five percent of the radiated energy (signal) leaving your antenna at an angle of twenty degrees or more above the horizon. Obviously this energy may make you sound like Gang Busters in Winnipeg, but it doesn't do a thing for your direct-wave coverage! And direct-wave (sometimes called ground wave) is what you are after.

So how do you bring the bulk of your radiated energy "down out of the sky" and back to earth, as indicated in diagram two?

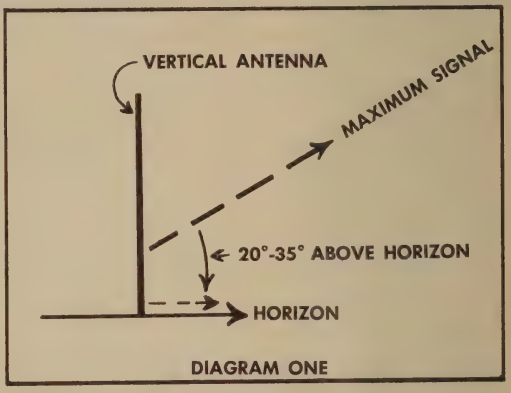

DIAGRAM ONE

Legally this is a tough question to answer. You see the fact that the majority (or any substantial part) of your signal energy is radiating off into the sky, and not along the ground, is determined almost completely by how high above ground your antenna is. If the base of your antenna is less than thirty-six feet and two inches above ground (don't run out to look . . . if you are legal, it is probably *much*

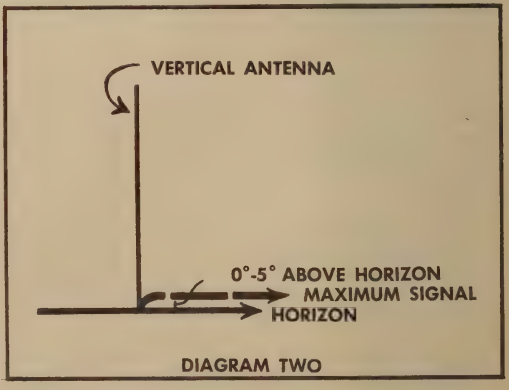

DIAGRAM TWO

less), you are probably squirting more of your energy *up and out* (as shown in diagram one) than just plain *out* as shown in diagram two. This is due to what is termed "ground

reflections" which enter the picture when any antenna is mounted less than a full electrical wavelength above ground. Ground reflections act like re-enforcing waves which "push" the normally *parallel to the earth* waves "up" into the ionosphere. The only way to get away from nauseating ground reflection problems is to raise the antenna up to a height *above ground* where the ground reflections become too weak to materially affect the radiated signals. This magical height is one wavelength, which in turn is slightly over thirty-six feet in free space.

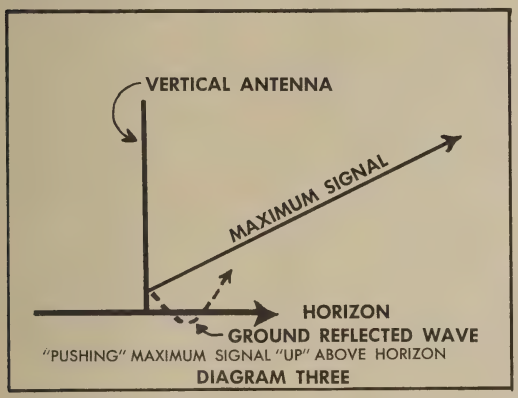

DIAGRAM THREE

Mind you, we aren't advocating breaking the existing antenna height regulations spelled out so clearly in part 19. We are noting, however, that if you have a legal means of getting the base of your ground plane, vertical coaxial sleeve antenna, or beam antenna, thirty-six feet or more above ground, you do stand a much better chance of cutting down on skip interference, AND, really improving the efficency of your direct wave coverage.

Question: What affect do steel guying wires have on my ground plane?

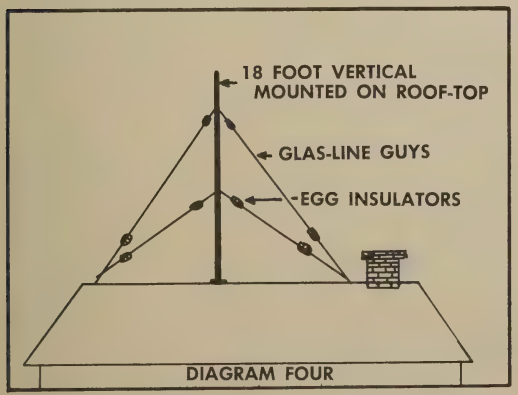

DIAGRAM FOUR

Answer: A great deal. They act similar to additional ground plane radials. **10-7**

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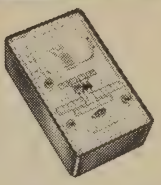

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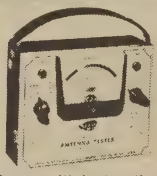

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Assembling Your CB Station

by Richard Curtis, 6W1033

Having operated CB rigs in just about every possible environment and under practically all conditions, I find that having my equipment arranged for ease of operation makes for the most effective utilization of my station.

Something as apparently inconsequential as a desk or table even enters into the CB picture when you're setting up a station. For instance, it should be at least thirty inches high and have a large enough surface to accomodate at least your transceiver and still give ample writing surface for writing down messages and taking notes. In fact, you should try to leave at least sixteen inches from the chair side of the desk to the front of the rig, with the set slightly to the left.

If the table is shallow, place the rig all the way over to the left and any books and papers you need on the right, leaving the center clear.

Often it is helpful to actually build a raised platform about five inches high at the front and three inches high at the back. This will tilt the set up for ease of operation. You may then use the space under the platform for pencils, papers, etc. The platform may be whipped together with 2 by 4 inch pieces of pine to support a plywood platform.

Here is an "ideally" assembled station. The rig on a platform at the left, the telephone on the right, books on the right, map on the wall, lamp, pencil sharpener. Also note the power plugs on the side of the desk.

Now to safety precautions, such as bonding all metal cabinets together and hooking them to a good ground; a cold water pipe, with heavy wire.

Be certain that your power source is fused directly from the power meter. You may find that it is best to run a single, well insulated cord from the outlet to a multiple outlet tap attached to the side or the back of your operating table, rather than run long wires to the wall outlet from everything on your table.

I've always found it handy to have a telephone on my desk – over on the right. Posted near the telephone are the numbers of the Police, Fire Department and any other necessary emergency numbers.

Other handy things to keep near are a desk lamp (try not to get a flourescent one because they're noise makers), a pencil sharpener, a digital reading clock, a five minute timer, a map of the city, Call Book, and a spare set of tubes never hurt anyone either.

Oh, and let's not forget the mobile rig. You should have a control which will permit you to keep both hands on the wheel while transmitting. To do otherwise is dangerous, also illegal in most states. A footswitch or a toggle switch which requires only momentary use of the hand is dandy. Always remember this CBers epitaph:

"He went sizzling down the highway,
One hand held mike and switch;
A truck pulled out in front of him:
He didn't even twitch."

10-7

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CONFESSIONS OF A CB-XYL

By Mrs. 12Q1747

A CB'ers wife has problems all her own. Her life was really quite normal until her husband joyfully carried home this first transceiver and tenderly removed it from its packing.

After about an hour of "trying to see how the set looks" in each room of the house—it always winds up in the kitchen. This is done for two reasons—first, despite all protestations to the contrary, she must take as much interest in CB as the old man, "or else." Oh, she needs to monitor his channel – that's the other reason.

On his way to work he may wish to call with an "important" message about how heavy the traffic is, or a reminder to water the yard, or a signal check at "three miles out."

The poor wife who used to have peace after her husband left for work now has her worst time, what with the background clamor from the kids and the ever-present diathermy—she still has to keep an ear peeled for her husband, and think fast enough to come back with at least a half-way intelligent answer. Lucky is the wife who learns the "10" code as she can always, as a last resort, throw the old man a fast "10-4," which will usually get her off the hook. (Be careful with using the "10" code around the kids though, I have been called to school three times to explain what "10-4" means.)

And how I love that antenna that stands on our roof as if it were a beacon telling all the neighbors—"Here is the guy that causes the TVI." Never mind the fact that there are three hams in the area—one running a kilowatt—and the fact that 75% of the TV sets with the complaints are fugitives from the Smithsonian.

Another problem to be faced is that of CB friends—they aren't referred to by names, only numbers (outsiders are often shocked to think that our friends might be convicts). A typical dinner-time conversation between a CB'er and his wife is: "1493 was on today talking to 5475, they were planning a picnic. I think 2345 is going."

Of course you really know the names, but it just doesn't seem right to use them.

Regardless of the fact that our marriage now centers around a mike and button, I really have gotten to like having the set in the house. I can usually catch my CB'er on the way home from work if I need a loaf of bread—and that's saved me many a trip to the store.

If I'm a little mad at him I let him know by not answering when he calls.

Here's a word of advice to new CB-wives: Never give your fella less than an "S-9" reading if you can hear him at all—tell him it's the best signal on the band. And it never hurts to tell him that he modulates like Ronald Coleman.

MONITORING CHANNELS

One of the most popular of our monthly features is the listing of nation-wide CB monitoring channels—a directory of how to manage in strange areas.

Please bear this in mind—when in doubt always stick on Channel 9—the unofficial CB National Calling Channel. This channel was set aside long ago for this purpose and is the one used in many areas not shown on this chart. Send in your area's channel.

LOCAL MONITORING CHANNELS

Arkansas
- Booneville — Channel 3
- Fayetteville — Channels 7, 11
- Fort Smith — Channel 7
- Little Rock — Channels 7, 11

California
- Alameda — Channel 15
- Fresno — Channel 9
- Los Angeles — Channel 2
- Modesto — Channels 11, 15
- Monterey Co. — Channel 9
- Sacramento — Channel 11
- Santa Clara Co. — Channel 15
- Solano Co. — Channel 17
- Stockton — Channel 2
- Tracy — Channel 2

Connecticut
- Torrington — Channel 11

Florida
- Plant City — Channels 4, 9, 11
- Tampa — Channels 9, 11

Illinois
- Highland Park — Channel 9
- Mundelin — Channel 9
- Peoria — Channel 14

Indiana
- Elkhart — Channel 9

New York
- New York City — Channels 7, 9

Oklahoma
- Tulsa — Channels 4, 9

Pennsylvania
- Pittsburgh — Channels 9, 11
- Williamsport — Channels 4, 9

Texas
- Abilene — Channel 11
- Corpus Christi — Channel 11
- San Antonio — Channel 8

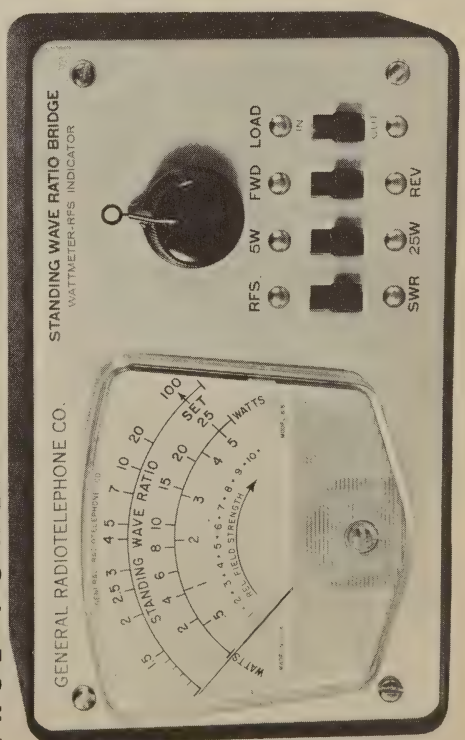
Virginia
- Hot Springs — Channel 11
- Newport News — Channel 11
- Norfolk — Channel 11
- Richmond — Channel 11

Washington
- Kennewick — Channel 15

Wisconsin
- Chippewa Falls — Channel 7
- Eau Claire — Channel 7
- Kenosha Co. — Channel 7
- Racine Co. — Channel 7
- Sheboygan — Channel 11

TRUE POWER • STANDING WAVE RATIO • RELATIVE FIELD STRENGTH

Now for the first time — A single precision instrument that measures



General Radiotelephone presents the new
Model 615 Multi Function Bridge

FUNCTIONS: Direct readings of forward and reverse power for VSWR. Reads true-power to 52 ohm load in two ranges of 5 and 25 watts. Shows relative field strength using telescoping antenna.

SPECIFICATIONS: Self contained 52 ohm, 30 watt. GLOBAR dummy load. Flat loading within 3db. to 50Mc. Meter 1 Mil. movement with 4 scales for all functions. Couplings are Silver plated SO-239 Coax connectors. Unit may be left in line during operation at all times. Accurate transmitter adjustments and continuous monitoring of power.

RANGES: VSWR- 27 to 54Mc. Scaled 0 to 100 with Calibrate -Set mark. Watts- Two separate scales for 5 and 25 watts.
RFS- Relative Field Strength Meter Calibrated 0 to 10 with sensitivity control.

MECHANICAL: Size—7"W x 4⅛"H x 3¾"D. WT 4 lbs. Spg Wt. 6 lbs. Cabinet—Black wrinkle finish. Panel—Gold anodized solid aluminum. Controls—4 Slide-switch functions and one Rotary Control. Warrantied for 90 days against defects. FOB Burbank. Net Price—$39.95. Adapter Cable for connecting SO-239 and Motorola Type Plugs: $1.95 each.

Your Dealer or write:
GENERAL RADIOTELEPHONE COMPANY
2806 West Burbank Blvd., Burbank, California, U.S.A.

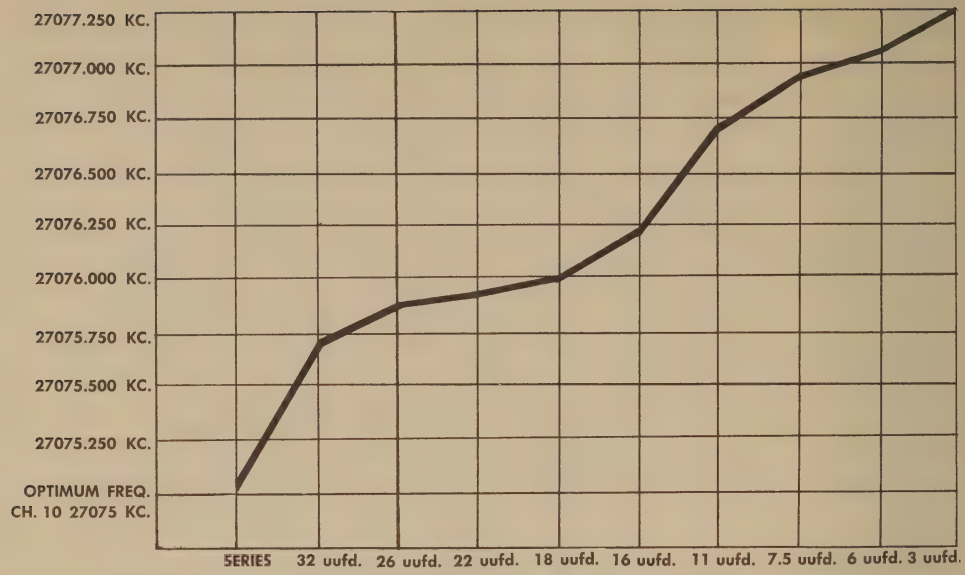


Figure 1

THE CRYSTAL BAWL

(Continued from page 10)

ters.

You can now see why the Lafayette crystal didn't work properly in the C-27, and you now should also see why you should be extremely careful when ordering new crystals for your transmitter.

We list here the types of crystals used by the most commonly used CB transceivers about which this information could be obtained. Keep the chart handy when you place your next order for crystals.

So, after all of this—what is the final answer to the question: "Can I interchange crystals?" Answer — Absolutely not!! Under no circumstances whatsoever should you ever switch crystals from one unit to another. Moreover, you should never use in your CB rig any crystal which was not specifically ordered and ground for your particular unit. This is important!

This applies to both receiving and transmitting crystals.

Certainly, you do not want to operate your station illegally. Switching the crystals from one manufacturer's unit to anothers means you'll be operating off frequency—a direct violation of Federal Communications Commission regulations. 10-7

(add 5¢ per crystal for postage and handling)

CITIZEN BAND
CLASS "D"
CRYSTALS

3rd Overtone: Hermetically Sealed .005% tolerance—Meet F C C requirements, ½" pin spacing—.050 pin diameters. (.093 pins available, add 15¢.)
ALL 22 FREQUENCIES IN STOCK!
$2.95 EACH

The following Class "D" Citizen Band frequencies in stock (frequencies listed in megacycles): 26.965, 26.975, 26.985, 27.005, 27.015, 27.025, 27.035, 27.055, 27.065, 27.075, 27.085, 27.105, 27.115, 27.125, 27.135, 27.155, 27.165, 27.175, 27.185, 27.205, 27.215, 27.225.

Matched crystal sets for Globe, Gonset, Citi-Fone and Hallicrafters Units . . . $5.90 per set. Specify equipment make.

RADIO CONTROL CRYSTALS
in HC6/U HOLDERS—SIX FREQUENCIES

In stock for immediate delivery (frequencies listed in megacycles); tolerance .005%. ½" pin spacing. .050 pin diameter. (.093 pins available, add 15¢ per crystal.) Specify frequency.

26.995, 27.045, 27.095, 27.145, 27.195, 27.255 ..... $2.95 EACH

(add 5¢ per crystal for postage and handling)

ASK YOUR PARTS DEALER FOR TEXAS CRYSTALS
See big red display . . . if he doesn't stock them, send us his name and order direct from factory.

Send for FREE CRYSTAL CATALOG #860 WITH OSCILLATOR CIRCUITS

Now! Engineering samples and small quantities for prototypes now made either at Chicago or at Ft. Myers plant. 24 hour service!
CHICAGO PHONE GLadstone 3-3555

All orders Shipped *1st Class Mail*. Rush order to:

TEXAS CRYSTALS
DEPT. H-91, 1000 CRYSTAL DRIVE, FORT MYERS, FLORIDA
For fastest possible service, Phone WE 6-2100

TRY THIS . . .

Check Mobile Antenna Loading

With transmitter keyed and SWR meter inserted in the line at the transmitter end of the circuit, approach the whip end of antenna system with your hand. If the meter shows lower reflected power as the hand comes close to the antenna, the whip must be lengthened. If the ratio meter reflected power increases the whip must be shortened.

Tech Tidbits

From THE MCEU NEWS —

The vehicle's generator should be able to provide ample battery-charging current to care for the added load imposed by a class D radio unit. However, it may be desirable to install an oversized generator if the radio equipment is used much of the time. Both d.c. generators and alternator-rectifier generator systems that are specifically designed for this purpose are available. They provide high charging current even at low engine speeds. (20W5302)

From CBer NEWSLETTER (Hillcrest Citi-Band Club) —

As we all know, engine noise is a big trouble in our mobile rigs. We've tried a unique idea which has practically eliminated all engine noise. Using aluminum screening, we completely covered all of the ignition system under the hood, at the same time grounding it securely. It takes a little time but it's well worth it. (19W8158)

From Various Club Bulletins —

It has long been considered a theoretically good idea to keep a rig's heaters permanantly lit for the life of the set. Presumably the main reason for this is to eliminate oscillator drift during warmup periods. In addition, tubes are supposed to have a longer life when they don't have to go through the rigors of heating and cooling cycles. The surges that occur when current is turned on cold filaments, or the high voltages which rectifier tubes deliver as plate voltage before amplifier tubes are warm enough to pass current, may also damage other parts of the set.

The CBer can have constantly-lit heaters by simply inserting a toggle switch in the B+ line from the power supply. During periods of non-operation, the set is "turned off" by the toggle switch, which will allow the filaments to remain on. If an extended period of non-operation is contemplated, the set may be turned "fully" off with the front-panel on/off switch.

From SOUTHERN CALIFORNIA 11 METER NEWS —

Here's a simple cure for TVI which you can suggest to an irate neighbor. Have *him* obtain a 60 inch piece of 300-ohm TV lead-in. Strip both wires on one end and have *him* connect these onto the two antenna screws on the back of the TV set. Have *him* cut short pieces off the free end of this with a wire cutter (two-inch snips) while the set is receiving channel two. As the interference starts to clear up, take of smaller and smaller snips, until the interference is gone. Leave the remainder of the line connected to the set. (11W2810)

From Various Clubs —

Heating pads commonly found in many households have been a source of receiver interference. This interference can usually be cleared up by by-passing each of the thermostats with small capicators. To do this, simply open the pad and solder .005 ufd. ceramic disc type capacitors right at the thermostat terminals. Be careful to see that proper insulation is made at each joint so that the user will not be hurt by exposed wires. The thermostats themselves are large enough to act as guards for the tiny capacitors.

From Various Clubs —

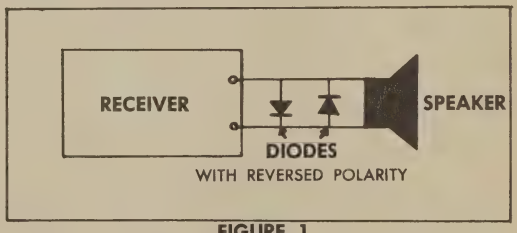


FIGURE 1

Here is an effective and inexpensive means of cutting down on ignition-power line noise. Total installation time is but a few minutes. Take two-1N34A germanium diodes and connect them across the secondary (output) on your transceiver audio output transformer. Connected with reverse polarity as shown you will have a very effective clipper to knock down the noise spikes.

From Various Clubs —

High-pitched auto generator whine can be reduced or eliminated by installing a 500 ufd. 12 volt electrolytic capacitor from the generator output terminal to ground. Observe polarity, which will depend upon whether the car

frame is negative or positive. (Make certain that you *don't* connect the capacitor to the field terminal of the generator.)

From various clubs—

Voltage regulator noise in an auto can be stopped by connecting a 10-ohm 1-watt resistor from the terminal marked "field" to ground.

From Various Clubs —

Don't forget that spark plug noise can be easily eliminated by utilizing resistor spark plugs which are available at all auto supply stores.

From THE MODULATOR (5-11 Radio Club) —

The diagram shown is a circuit which may prove helpful in eliminating TVI. It consists of a trimmer capacitor, C1 (3-30 to 3-70 uufd. ceramic disc), and five turns of No. 22 wire, space wound on a ½-inch form B&W Miniductor No. 3001 with three turns cut off is dandy). Peak the set with a field strength meter and tune the TV set to channel two. Adjust the capacitor until the TVI is eliminated, or at its lowest level. Be sure to place the TVI filter on the transmitter side of the relay because it will cause signal loss if wired to the antenna itself. (20W4506)

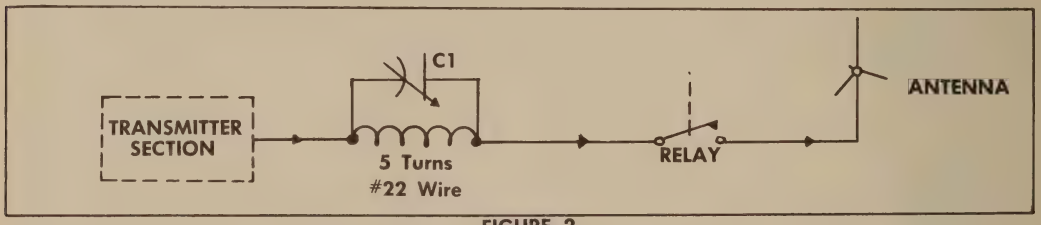


FIGURE 2

From CBer NEWSLETTER —

When making repairs or adjustments in your transceiver, be certain that you have disconnected the unit from the wall socket. Your transceiver may hold a charge in the capacitors of the B+ circuit even though your unit is turned off. These capacitors do not always lose their charge completely, so take the time to ground this circuit (more than once) before beginning your repairs. (19W8158)

Vibrating Antenna?

If your beam sounds like a buzz-saw every time a strong wind comes by why not end the situation by fitting small corks snugly in the open end of each element?

Rusty Screws?

If you find that outdoor exposure has rusted and corroded the screws in your antenna why not try this next time? Spray the screw head with Krylon plastic spray after it is tightened, or daub it with nail polish.

Noisy Receiver?

Very often a loose connection in your antenna will cause annoying noise in your receiver. An emergency repair will quiet this until you can get out to patch up the cause of the trouble. Just hook a 70-ohm resistor between the receiver input side of the T/R relay and a ground lug on the transceiver's chassis. It may reduce the strength of the incoming signal but will at least quiet things down until you correct the problem. 10-7

THE NEWEST ADVANCEMENTS IN CB COMMUNICATIONS EQUIPMENT

QUALITY ENGINEERED • PRECISION BUILT
. . . at prices lower than formerly possible!

HERALD WALKIE-TALKIE Extra compact, 2⅞" x 1" x 6", 15 oz. less batteries. Maximum 100 MW power, 9 + 2 transistors for 27 MC Citizens Band. Crystal controlled transmitter and superheterodyne receiver. Clear range to 10 miles. Complete with leather case and batteries.

MERCURY MARK I RADIO 'PHONE Highest fidelity transmission and reception. Citizens Band 5-watt superheterodyne transceiver. 8 crystal controlled spot frequencies for Channels 1-22. Superdynamic 4" speaker and microphone. External power, 115v. AC and/or 12v. DC.

• Cases 2-tone blue. One year warranty. Write today for complete information.

INTERNATIONAL COMMUNICATIONS CORPORATION

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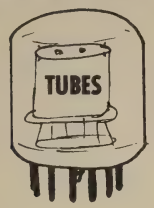
complete with 4 crystals

SUPER POWER



By Mike Williams, 12Q1416

Guided missiles, computers and radar have given CB, and two-way communications in general, one of the biggest windfalls possible. These electronic miracles have caused tube designers to develop "super" electronic tubes – ones which have minimum life spans of 10,000 hours (2,500 to 5,000 hours for "regular" tubes is good), highly ruggedized construction, exceptional electrical stabililty, and the finest quality materials and workmanship.

If you're entirely satisfied with the present performance of your rig then read no further. If you feel that you'd like to spend a little more money and fancy-up your rig, the next time one of your tubes needs replacing—*why not try one of these?*

Look for them at most radio supply houses under the following brand-names: RCA "Special Red," Sylvania "Gold Brand," G.E. "5-Star, and "Gold Lion." These tubes are also included in the regular lines of Tung-Sol, Raytheon, and Amperex.

Now you *may* have to do a little readjusting on your rig to get maximum benefit from some of these tubes but they will not need any wiring changes. Just stick them in the original tube sockets.

What will these tubes mean to your CB operation? According to manufacturers' lit erature, you will probably have 400 percent longer life and reliability from these tubes over standard types. They will not do the familiar "dying swan" act – slowly weakening until they just peter out. These tubes will give really top-notch performance right up until the very day they conk out. The vibrations and bouncing that sometimes shorten the lives of "standard" tubes in mobile CB rigs should have no effect on these tubes. Some will actually give you increased performance.

These tubes are generally identified by their four-number "names" (6627, 7543, etc.), although "standard" tube names with the letter "W" as a suffix are ruggedized military versions. You will notice that some "standard" tubes are listed as replacements here (6BM5, 6BZ7, etc).These are not ruggedized tubes but should give superior performances to the "standards" which they replace. The TD-2 is not a tube, it is a twin diode which is distributed by Two-Tone Electronics, as is the ST-8, which is made by the International Rectifier Co.

RUGGEDIZED AND HOT-SHOT REPLACEMENT TUBE GUIDE

ORIG.	REPLACE WITH
OA2	OA2WA, 6073, 6626, 6830
OB2	OB2WA, 6074, 6627, 6831
OC3	VR-105
1U4	5910
5U4G	5931, U52
5V4G	U77
5Y3GT	5Y3WGTA, 5Z4, 6087, 6106, U77, TD-2
6AC7	6AC7WA, 6AJ7/6AC7, 6134
6AH6	6AH6WA, 6485
6AK5	6AK5W, 5591, 5595, 5654, 6096
6AL5	6AL5W, 5726, 6058, 6095, 6097, 6663, D717, EB91
6AQ5	6AQ5W, 6BM5, 6005, 6094, 6095, 6669, EL90
6AQ6	6066
6AS6	5725
6AT6	6066, EBC90
6AU6	6AU6WA, 6AU6WB, 6136, 7543
6AU8	7060
6AV6	6BK6, EBC91
6BA6	6BA6W, 5749, 6660, 6661, 6485, EF93
6BC8	6BZ7
6BE6	6BE6W, 5750, 6660
6BH6	6265, 6661, 6688, 7693/E90F
6BJ6A	6BA6W, 6662
6BM8	ECL82
6BN6	6265
6BQ5	7320, EL84, N709
6BS8	6BQ7
6BW4	TD-2
6BZ6	6CF6, 6DE6, 7732
6C4	6C4W, 6100, 6135
6CB6	6CF6, 6DE6, 7056, 7732
6CL6	6197, 6677
6CS6	EH90
6DE6	6CF6, 7732
6DJ8	6922, E88CC
6DK6	7732
6H6	6H6WGT
6J6	6J6WA, 5844, 5964, 6045, 6099, 6101, 7244A, ECC91
6K6GT	1621
6L6G	6L6WGB, 1222, 1223, 1614, 5881, 5932, 6550, 7581, KT66, 6L6GAY
6SA7	6SA7WGT, 5961
6SC7	6SC7GTY
6SG7	6AJ7/6AC7, 6006, 6134, ECC35
6SJ7	6SJ7WGT, 6SJ7Y
6SK7	6AJ7/6AC7, 6SK7GTY, 6SK7WA, 717A, 6134, 6137
6SN7GT	6SN7WGT, 6SN7WGTA, 6BL7, 6BX7, 5692, 6042, 6180
6U8A	6678, 7059, 7731, ECF82
6V6GT	5871, 5992, 6061, 7408
6X4	6AV4, 6X4WA, 5993, 6063, 6202, U707, TD-2, ST-8
12AT6	HBC90
12AT7	12AT7WA, 6060, 6201, 6679, 7728, B739, ECC81
12AU7	12AU7WA, 5814A, 5814WA, 6067, 6189, 6680, 6681, 7025, 7729, B759, ECC83
12AV6	HBC91
12AX7	12AD7, 12DF7, 5751, 5751WA, 6057, 6072, 7316, 7730, B749, ECC82
12AY7	6072
12BA6	HF93
12BE6	HK90
12BH7A	6913
12BY7A	12BV7, 7054, 7733
35W4	HY90
50C5	50B5
EZ90	U707

10-7

CBH-VMP

PHASE I

By Sherry L. Greener
CBH-VMP Operations Director

Here is the first report to the CBers of America on CB HORIZONS' VOLUNTARY MONITORING PROJECT, "CBH-VMP."

In our July issue we ran a one page mention of what we had in mind for monitoring and self-policing on the 11 meter band, with the article we also ran an application for interested parties to complete and return to our offices.

Briefly, we had in mind taking the bull-by-the-ground plane and trying to improve conditions on the band by setting up a network of monitoring volunteers who will send improperly operating CBers little "reminder" cards to suggest they *correct* a Part 19 violation before the FCC catches up with them.

To say the response from our suggestion *was a success* would be an understatement — we received 291 applications. Sorting through such a stack is no easy task, especially when each application is treated as a separate entity. The initial applications have been checked with regard to the applicant's prior FCC record (a citation in the past does not necessarily prohibit a CBer from participating in CBH-VMP, however we require the applicant to submit his application with a statement to the affect "the matter has been cleared up with the FCC" and is not likely to occur again). We also consider the amount of time to be devoted to the project, the age of the applicant (if under 18, the qualifications are double checked and permission must be obtained from the licensee of the station whose equipment will be utilized for monitoring). We also consider the equipment used at the monitoring station to see if it is suitable for participation in the project.

This takes quite a bit of time and, unfortunately many of the applicants had to be turned down completely or their applications were returned for suitable completion. The stations painstakingly selected from the first group of 291 for participation in CBH-VMP are listed here. You can see that we were somewhat over-cautious in our selections, accepting only about 15 percent of those who applied — we hope you will appreciate the fact that we are looking for the people who, in our estimation, will do the best job for you.

Each of the accepted monitors has been sent a complete MONITORING PACKET consisting of full instructions on how to monitor, log and report to stations violating sections of Part 19. Each station has also received a wall certificate acknowledging its participation in CBH-VMP.

At the present time, our monitors will concentrate only on certain specific violations, rather than go "whole hog" into self-monitoring. We want to break into this slowly and do it right. As time goes on we will gradually increase our violation coverage.

Monitors have been instructed *never* to advise a station of a violation "over-the-air." The only approved method of a monitoring station advising another station of a violation is by the specially prepared Monitoring Cards we supply to our monitors. If any CBer is ever contacted directly over by the air regarding

(Continued on page 26)

Application for Participation in CB Horizons Voluntary Monitoring Project

(Use Typewriter Only)

Name_____ Call Sign_____

Address_____

City_____ Zone_____ State_____

CB License issued (date)_____

Have you ever received an FCC citation charging violation of Part 19?_____

(If "yes" state violation_____)

What type of receiving requirement is in use at your station? (receiver and antenna) _____

Do you own a typewriter?_____

Do you have a current copy of Part 19 in your possession?_____

Have you read and understood Part 19?_____

Do you hold any class of FCC license other than CB? (state class of license and call sign if any)_____

How much time would you be able to devote each week to CBHVMP? ____ hrs.

Date of birth _____ Occupation _____

State your primary use of CB_____

I hereby apply for participation in CBHVMP, CB HORIZONS' project to improve existing conditions on the Citizens Band. I am a regular subscriber to CB HORIZONS. I understand that if accepted to participate in the program I will abide by the regulations set forth by the directors of CBHVMP. I further understand that my authority to participate in this project may be immediately terminated by Horizons Publications by written notice, just as I may withdraw from the project upon written notice to Horizons. I am willing to perform this service without reimbursement for the benefit of the users of the Citizens Radio Service.

The above statements are all true and correct.

Date _____ Signature _____

a violation by a station who claims to be associated with CBH-VMP he is requested to immediately report the full details of the incident to this office.

Would you like to participate in our CBH-VMP? If you are *seriously* interested in bettering the 11-meter band why not fill out the application in this issue and return the form to us. Send no money, the monitoring cards ($1.75 for 100) may be ordered after we process your application.

Aren't you tired of sitting back and letting others clean up the band, or just plain tired?

10-7

CB STATIONS ACCEPTED FOR PARTICIPATION IN CBH-VMP

(Note: In effect as of Friday, July 28, 1961)

1Q1938	Stephen Polakowski, Jr.	Holyoke, Mass.
1W1126	Dean McLaughlin*	Granby, Conn.
1W3630	Henry R. Rosenblatt	Newton Center, Mass.
1W3641	Robert P. Brown	Auburn, Mass.
1W7174	Gary A. Shapiro*	Bridgeport, Conn.
1W5415	Stanley M. Crosby	Hyannis, Mass.
1W8909	Felix Gutkowsky	Uncasville, Conn.
2W1131	Ted W. Otten*	Williston Park, N.Y.
2W4586	John Krejc, Jr.	Garfield, N.J.
3W2883	Virgil G. Kennedy*	Drexell Hill, Pa.
2W5485	Grace Plummer	Neptune, N.J.
3W4694	Robert N. Solliday	Sellersville, Pa.
5Q0319	Charles K. Caton	Kannapolis, N.C.
5W2736	Lewis L. Rosinger	Winston-Salem, N.C.
5Q1396	William N. Smith	Hampton, Va.
6Q2549	Harry T. Stout	Elizabethton, Tenn.

(Continued on page 36)

CBH-VMP STATION REPORT

Here's a typical CBH-VMP monitoring station, 11W7262, operated by Howard Chamberlain of Sierra Madre, California.

Located 1,300 feet up, on the side of a mountain overlooking the San Gabriel Valley, 11W7602 covers east to San Diego, south to Catalina, and west to the Pacific.

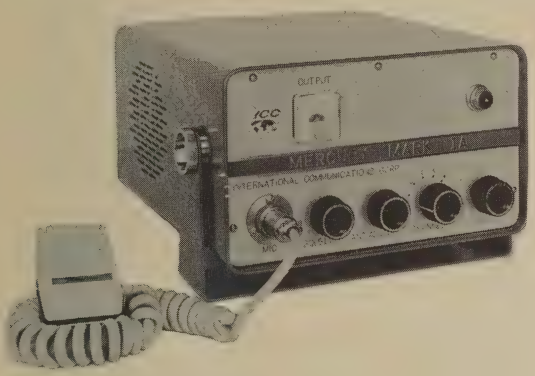
The equipment at the station is a Globe CB-200, Astatic D-104 mike, Johnson bridge and coupler, Hallicrafters SX-43 receiver and a Gizmotchy beam rotated by a CDR rotor. A military BC-683 is used to monitor the Forest Service and Sheriff's Department and an IDEA (Regency) Monitoradio is used for monitoring VHF (150-175 mc.) police departments. A Mastercrafter's clock is used.

11W7262 is an Alternate Net Control station for the Pasadena Area CB and on numerous occasions has handled traffic for the California Highway Patrol involving accidents on the freeway systems. Mr. Chamberlain handled several MAYDAY calls occurring in the Catalina channel by alerting the USCG.

Mr. Chamberlain is a member of the 10-99 Club and the S. Calif. 11 Meter League.

CBL cards from other CB'ers who have heard 11W7262 adorn the walls of the radio room attesting to the station's coverage.

CB SHOWCASE



I.C.C.'s Mercury Mark 1-A

The International Communications Corp. (1929 Wilshire Blvd., Santa Monica, California) announces their new Mercury Mark 1-A transceiver.

The unit features a superhet receiver, 8 transmit/receive channels, 4" dynamic speaker, front-panel r.f. output meter, front-panel antenna peaking, adjustable squelch and push-to-talk.

Cabinet is slick two-tone blue with chrome touches. Only 10" wide, it weighs-in at 13½ lbs. Operates from 115VAC/12VDC.

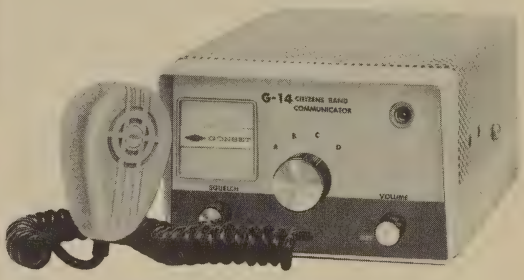
The company will be glad to fill you in on any details you want if you drop them a card. In fact, why not go right to the President of the company, Lawrence Hermes, radio pioneer, for the data. Thank him for giving CBH the exclusive first scoop on this brand new unit!

The Gonset Co. (801 South Main St., Burbank, Calif.) has just announced two new CB rigs—the G-15 and G-14.

The G-15 is a 5 channel job with a tunable receiver featuring dual conversion. It has a squelch, a.n.l., 3 stages of i.f. amplification, 5 watts of audio and operates from 117VAC/12VDC and 117VAC/6VDC. The receiver features adjacent channel rejection of 10 db. at points 50 db. down.

The price has not yet been announced.

The other new Gonset unit, the G-14, is a 4 channel rig with a fixed position receiver featuring dual conversion. It also features 3 stages of i.f. with adjacent channel rejection of



Gonset's new G-14 Communicator

10 kc. at points 50 db. down, 5 watts audio output and dual operating voltages.

The price is less than $150.

Here's a handy item to have around the CB shack, the Transicheck, from Continental Electronics & Sound Co. (Cesco, 6151 Dayton Liberty Road, Dayton 18, Ohio).

This unit is used to check CB transmitter power output and antenna efficiency. It can be used for resonating or tuning transmitter power output and adjusting antenna loading.

Heart of the Transicheck is the indicating meter with a dual scale—the upper scale for indication of the match or mismatch of the transmission line to the antenna – the lower scale, graduated from 1 to 5, indicates power output.

A nice feature of the unit is that it is available in two models—the same innards in each but with different connectors. The model CB-52-S has auto spade connectors and the CB-52-C has the standard coax plug.

Cesco will be only too happy to send you full details on the Transicheck and their complete line of CB operating aids. Ask them about their neat little generator—noise killer for mobiles—we've seen one make a ferociously noisy Volkswagon as quiet as you'd ever want it.

The C. C. Sales Company (R.D., New Salem, Pa.) has a cleverly designed and attractive reflective call sign sticker they are now marketing.

An illustration of this eye-catcher is shown elsewhere in this issue.

It is made from Scotchlite, a highly reflective material at night and a vividly colorful one during the day. The deal goes for a paltry

two bucks—and they'll run you off extras at $1.50 each. If you've ever priced Scotchlite, you'll probably say to yourself(as we did), "How can they make them so inexpensively?"

Rumblings—

Jerrold, of TV antenna fame, is reported to be coming out with a SSB (single side-band) rig, and an antenna manufacturer (who wishes to remain anonymous for the moment) has informed us of the most fantastic low-priced piece of test gear we've ever heard of—they will probably announce it here in a month or two.

DIRECTORY ADDENDUM

INTERNATIONAL COMMUNICATIONS CORP.

1929 Wilshire Blvd., Santa Monica, Calif.

Mercury Mark I

8 channels for receive/transmit. 10 tube performance with superhet receiver. A.n.l., squelch, operates from 117VAC/12VDC.

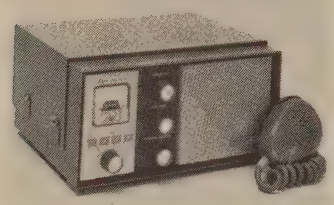
MERCURY MARK I $169.50

Mercury Mark IA

See CB Showcase this month for details.

MERCURY MARK IA $175.00

YOUR BEST CITIZENS BAND BUY!



NEW

KAAR TR327 Radiotelephone the Deluxe "D" Phone

Once again, Kaar's quarter century of progress in 2-way radio communications offers you MORE!

MORE PRACTICAL, USABLE FEATURES

New, Universal Power Supply...New, Illuminated Signal Level Meter...New, Sealed Relay...New, Snap-In, Snap-Out Mounting...4 Crystal-Controlled Channels...Front Panel Power Output Peak Control ...5-Watt Input...Highly Effective Noise Limiter... Positive Squelch...Lots of Audio...Big 4½" Speaker.

PLUS...TWO TREMENDOUSLY IMPORTANT OPTIONAL FEATURES

Tunable Citizens Band...flexibility and convenience you've never before enjoyed on Citizens Band.

Tunable Standard Broadcast Band...for music, news, and entertainment wherever you go. Always MORE for YOU from KAAR! 179.00

(BASIC MODEL)

For complete information on the new, KAAR TR327 send coupon to:
KAAR Engineering Corp.
2989 Middlefield Road, Palo Alto, California

NAME_____

ADDRESS_____

CITY_____ STATE_____

Herald Mark I

Transistorized handie-talkie with 9 transistors and 2 diodes. Self-contained batteries.

HERALD MARK I $59.50

• • •

ELECTROSOLIDS CORP.

13745 Saticoy Street, Panorama City 32, Calif.

Spacephone

Transistorized handie-talkie with tunable superregenerative receiver. Self-contained batteries.

SPACEPHONE $24.95

• • •

SONOTONE ELECTRONICS

Elmsford, N.Y.

Model CM-30 Microphone

Ceramic push-to-talk mike in high impact case with coiled cord. Mike has response from 90 to 6,000 cps.

CM-30 ..... $14.00

• • •

M. C. JONES ELECTRONICS CO., INC.

185 N. Main Street, Bristol, Conn.

Model 290 Power and SWR Meter

Measures r.f. output on calibrated 0-4 watt scale. SWR measured on scale shown on same meter. May be left in transmission line at all times.

MODEL 290 ..... $26.50

• • •

THE ASTATIC CORPORATION

Conneaut, Ohio

Model 151 Microphone

Ceramic button in gray plastic case. With 5" of cable.

MODEL 151 ..... $6.50

Model 331-2 Microphone

Specifically engineered for CB. Has momentary-on, spring return switch. Freq. range 300-5,000 cps.

MODEL 331-2 ..... $17.90

• • •

ITT DISTRIBUTOR PRODUCTS

P. O. Box 99, Lodi, N.J.

Citizens Radio Telephone

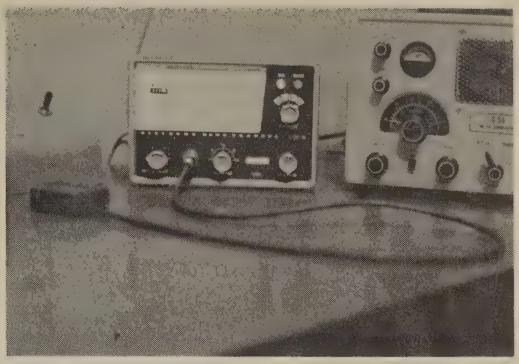
5 channels with fixed-tuned receiver. Has 17 transistors, 8 diodes with dual-conversion receiver. Selective calling, squelch, a.n.l., pi-output network.

CITIZENS RADIO TELEPHONE $199.95

The CBH Lab Reports...

WE TEST THE

- ★ EICO 772 Transceiver
- ★ Gizmotchy 11 Meter Beam
- ★ Stinger Mobile Whip
- ★ SECO Transmitter Tester



EICO 772

EICO 772

In line with the performance of our duties in editing CB Horizons, you might suspect that we have the opportunity to try out a great deal of equipment. *You suspect right.* Therefore we are not one to become overly enthused, without due reason. In this case the reason is a handsome two-tone brown metal box marked EICO 772. Frankly our enthusiasm must show every time we push the push-to-talk mike button. But . . . let's start at the beginning.

EICO was kind enough to airfreight out to the Modesto Horizons' lab an early production run model of their latest CB transceiver, the 771-772 series. Our serial number is 772-153, indicating (we have been told) this is a mighty early unit. Popping the unit from the box we were greeted with a strange-new mounting bracket. Upon further investigation (and subsequent reading of instructions, which is where we should have begun!) we discovered the mounting bracket is an ingenious device for vehicular installation which allows you almost instant mounting at ANY position convenient to the auto dash, and the whims of operating pleasure. EICO advises this bracket has a patent pending, and well it should!

Next stop in our standard "rig-check-out" procedure was a quick trip to a local CB service shop where the EICO's features were checked and rechecked with sensitive and accurate measuring equipment.

(A) EICO says the model 772 runs five watts to the plate of the final tube (12BY7A). Our's read 4.7 watts when we plugged it in, but EICO provides a jack on the rear of the panel where a standard milliameter can be inserted to peak up the rig. After peaking, our's easily read five watts input.

(B) EICO says 100 percent modulations. Our rig checked out between 95 percent and 100 percent, very good indeed.

(C) EICO supplied a channel ten transmit crystal which was off 140 cycles (well within tolerance).

(D) The receiver in the EICO model 772 is a tuneable job, covering all twenty-three channels. The arguments for tuneable receivers are many — we agree with most of them. The 772 receiver is supposed to provide ten db. of signal over the receiver noise with one microvolt of input signal. Ours provided thirteen db. of signal, which is better than manufacturing specs by one-half S unit. Also-very-very-good!

How Does it Work?

Very well thank you. So well in fact that Publisher Bob Cooper has latched onto our test for his base station use! Publisher Bob Cooper reports base-to-mobile contact out to twenty-two miles consistently, often to forty miles.

Details

CBH wants to commend EICO especially on the throughness of the manual they supply with the model 772 transceiver. We spent nearly three hours pouring over our copy, gleaning many tib-bits of information from its nineteen information-packed pages. In fact, it is almost a handbook for CB radio! Model 772 uses eight tubes, one diode, comes with power cords for 110 volts AC and either six (model 771) or twelve(model 772) volts d.c. The two i.f. stages operate on 1750 kc., and there is lots of audio on both transmit and receive. There are four transmit channels, one crystal controlled receive channel, and of course the tuneable receiver.

Price on either the 771 (110 VAC, 6 VDC) or 772 (110 YAC, 12 VDC) is $79.95 for the kit or $109.95 factory wired; a *steal* at either price. T.K.

WE TEST THE GIZMOTCHY

REACTION: Very-very nice!

One of the most unusual high frequency beam antennas to come along in a number of years is a product of the imaginative mind of one Bud Jones, owner of *Marina Communications, Los Angeles, California.*

Bud's brain children have included a fibreglas ninty-six inch whip (called the *Buddy Whip,* and due for a report here next month), a drooping ground plane, the Buddy TX-11 transmitter, and the subject for our report, the *"GIZMOTCHY Two in One Citizens Band Beam."*

As the Photo clearly shows, the antenna is unlike anything you have probably ever spotted on any skyline anywhere! It's not exactly vertical . . . and its not exactly horizontal; and yet it is both!

But let's tear it down . . . put it up, and tell you how it performs. We wouldn't dare venture to tell you "why it works". . . because frankly we aren't too sure ourselves. But that it does work . . . that we can say for sure!

When Bud Jones warned the *CB Horizons* lab a Gizmotchy was "on the way" we smiled and began planning our tests. "But," said Bud, "follow all of the instructions just as they come from the box." "Don't" he warned "try to second guess the antenna—all you can do is impair its performance."

With these sage words of advice we took the elements from the box, lined them up on the concrete and walked around the pile of tubing a few times shaking our head.

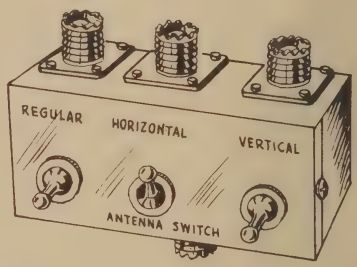
"Nope," said we "according to everything we know about antennas, it shouldn't work."

But we had promised Bud a fair and complete test so put it together we did. Now as you can see from the photo, there are both drooping elements acting in the horizontal-vertical plane, and a series of three all-vertical elements which stick straight up. We found mounting the elements duck soup (each is color coded and marked for mounting. We didn't even use a ruler). But in all fairness, we should note that getting the antenna off the ground and into the air is not made any easier by nine aluminum rods sticking in every concievable direction *all at the same time!* Just when we thought we had the antenna clear of one set of guy wires-bang-right into another set with another group of elements. Sort of like picking up a porcupine when all of his quills are extended.

The Gizmotchy

From carton to tower, the Gizmotchy required ninety minutes of effort.

Now—the real secret of this antenna. As diagram one partially shows, you have a driven element which appears to be a "T-matched dipole" broken apart. This is actually two driven elements, with the straight up and down rod fed with one length of 52 ohm line (we used RG-8) and one "almost horizontal" rod fed with another length of transmission line. This last one is the horizontal portion of the antenna. At the transceiver below you have a choice of selecting either feedline through an Antenna Selector Box provided by



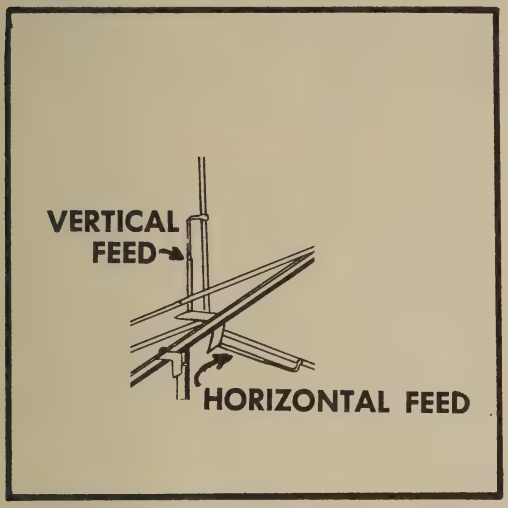
The control box for the Gizmotchy beam contains switches for changing your polarization from horizontal to vertical. A separate switch permits using your rig with an omni-directional antenna.

Marina for a paltry $7.50. The selector box allows you to feed up to three transmission lines into the gadget, and select any one for use at the transceiver by merely throwing a switch.

Performance

Once in the air we wired up our selector box and brought down the two lengths of RG-8 coax. Next we placed our trusty SECO Antenna Tester in the line between the transceiver and the antenna selector box, and peaked the rig for five watts input-maximum output. Now came the big test – how much SWR would we have? The switch was thrown . . . the forward power showed the antenna

was loading properly . . . and the reflected power scale showed an SWR of under 1.1 to 1! This was the horizontal feedline. Next we switched to the vertical feedline by throwing a switch at the antenna selector box . . . and viola! So low was the reflected power that it was impossible for us to detect any SWR! Well now . . .



Vertical feed and horizontal feed requires two separate feedlines on the Gizmotchy "two-in-one" beam.

In the weeks which have followed this early July test hook-up the Gizmotchy has proved itself time and time again here at Horizons. We utilize the beam for base station to base station contacts over distances up to eighty miles, and base to mobile consistently to twenty-five miles, and often to fifty. Using calibrated equipment, we found the front to back ratio to be all of the twenty-eight db. claimed by the manufacturer. Forward gain, incidently, is measured at between eight and eight and a half db. over a tuned reference dipole.

All elements are seamless tubing, and we expect the antenna to withstand the sand and wind of central California for a long-long time. Marina supplies the antenna with both horizontal and vertical matching for $55.95. The same antenna, vertical only, is $44.95. It is lightweight (15 pounds) and easily mounted by one man, and rotated by a standard TV rotor.

As we noted earlier . . . we aren't at all too sure "why it works," but like so many others here in the west, *we know it does work*, and work very-very well.

And what's more, we feel safe in recommending it to all CBers who are looking for a "powerful boost to direct 27 mc. communications."

Contact Gizmotchy at Marina Communications, 11527 W. Washington Blvd., Los Angeles 66, California.

WE TEST THE STINGER

REACTION: Performance Equal to a Full-Sized Whip

Across the nation you could tour and run into CBers using any one of fifty to seventy-five different whip type antennas. With the rapid growth of Class D radio it seems that everyone with a "few spare lengths of steel rod and a pair of wire snips" has entered the mobile antenna business.

It is, then, with pleasure that the technical department at CBH runs into a new mobile antenna product which seems to be — from all outward appearances — both new in design and unusual in performance.

Let's face facts. A quarter wave steel whip will work out just great — provided you don't have garage door problems or live in a region where large trees and low flying airplanes create a hazard to the 102 inch whip. And there are many CBers who feel conspicuous with "lightning rods" swaying in the breeze behind them.

So along comes an antenna design which the manufacturer claims "is shorter and better." Naturally you are interested. So were we, and we contacted *International Communications Company* in Lomita, California and arranged to test the STINGER CB antenna.

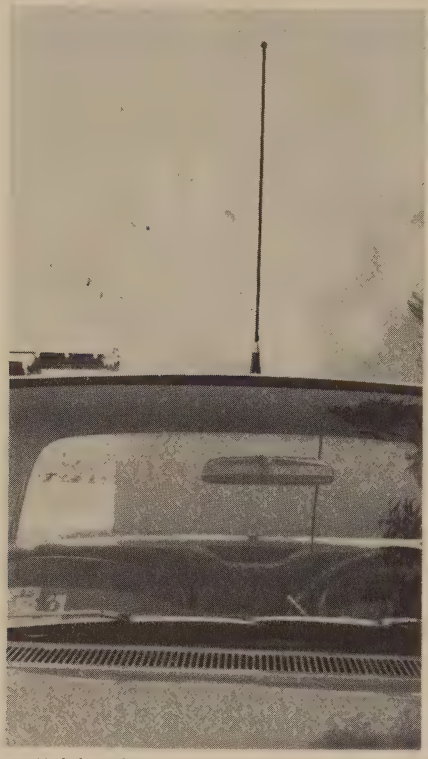
32 Inches Long

You first realize how short the thirty-two inch antenna is when you stand it beside you and it barely comes to the bottom of your pants pocket!

Following the instructions as provided with the STINGER we carefully drilled a ⅝ inch hole directly in the center of the roof on our test automobile and proceeded to drop in the polished steel mounting mechanism. A pair of grip pliers is all that is required, as the STINGER comes complete with a set of Allen wrenches to loosen and then tighten the set screws which hold the coaxial feedline in place.

Mounting our STINGER in the roof-center included running the coax under the headliner of the car. In passing we might note that to an inexperienced person, working under the headliner is not advised . . . unless you have

some expert advice available! You just may never get the headliner back on the way it came off! The antenna can also be mounted on the fender, trunk lid, or any number of other metal surfaces on the auto . . . with considerably less pain than on the roof itself. However . . . it should be noted that no part of the car will work quite as well as the top of the roof, which provides a natural "ground surface" for this antenna (or any other mobile antenna, actually).



Stinger Mobile Whip

The STINGER instructions add a twist to tuning, which is best accomplished by inserting an SWR meter between the antenna feedline and the transceiver, and observing the resulting SWR as you tune the whip. The twist we mentioned reads as follows. "Slide the whip down inside the loading base approximately 1/16 inch by loosening the set screw provided. Tighten the set screw and observe the SWR. It should have gone down. Next remove the red plastic ball-cap on top of the whip and cut off 1/16 inch, replacing the cap and observing the SWR. Repeat this until you have brought the SWR *down* to a satisfactory figure. Now slide the whip back up out of the base slightly until you have the lowest SWR."

In other words, here you have a means of compensating for "pruning too much off the whip" should you get carried away with the snips during tuning.

Performance

With the STINGER mounted on your car you have an attractive appearing solid mobile antenna. Our installation proved to be a sixty minute job, including the pruning and tuning, which, incidently, netted an SWR of 1.2 to 1. Mounted on the roof, as ours is, proved to be a definite advantage over bumper mounting affairs. First of all we moved away from wheel and engine noise of nearby freeway autos. Secondly the electrical center of our antenna was raised by a few feet, and lastly the roof surface area makes a dandy ground plane surface for the antenna!

For reference sake we ran the antenna against a 102 inch whip mounted (as they most often are) on the bumper with a strap mount. The 102 inch whip required five additional feet of coax, so we left five feet coiled up behind the transceiver with the STINGER, to equalize the comparison. We found S-meter readings on receiving ran identical on both antennas, BUT, the STINGER had nearly one S unit lower noise pick up from the surrounding cars and trucks. So net result . . . approximately six db. additional signal to noise *ratio* in favor of the STINGER. On transmitting, there were occasions when the whip was leading the STINGER by small margin, and vice-versa. But the average (after twelve comparison readings in a twelve mile radius of base) was identical . . . and performance on transmitting was equal between the two antennas.

Summing up our test of the STINGER . . . if you want a small sized antenna that does a full sized job, here is an excellent product for you. The STINGER showed almost identical SWR on channels 1, 7, 15, and 20, leading us to believe it is not frequency sensitive within the 27 mc. band . . . *provided* it is tuned properly at the outset.

You will be flooded with complete details by writing STINGER at *International Communications Company, 26330 South Western, Lomita, California.* Dealers are in most areas of the USA. The price is $17.95.

WE TEST THE SECO TRANSMITTER TESTER

By Herb Friedman, 2W6045
CBH Eastern Technical Rep.

Here's a report on a transmitter tester speci-

The Seco Transmitter Tester

fically designed for the CB'er, the SECO TRANSMITTER TESTER.

The TT contains a 50 ohm load and is calibrated directly in watts. You can check the exact output of your rig, and you can measure the r.f. loss in your antenna cable (this will settle a lot of arguments).

The TT will check both positive and negative per cent modulation. To illustrate the value of the modulation meter let us digress for a moment. We all know that our rigs give best results when they are fully modulated (85-100%). Now if you listen to the band for five minutes, you will hear at least three stations discuss how they "souped up" their modulation for more talk power.

Usually, they do increase the per cent modulation, but to *over* 100%. Neglecting the sideband hash and adjacent channel interference, overmodulation does sound great when you're S9, but, when you are operating just above the noise level or trying to cut through the QRM—you won't get through with overmodulation; nothing is more ineffective or more annoying to listen to than overmodulation. On the other hand, sharp-cutting 85% modulation is not only effective—it is a pleasure to listen to. (The difference between 85% and 100% modulation cannot be detected, but it provides a buffer against sudden peaks).) The SECO 510, by providing an indication of both peaks helps you maintain the maximum, clean, talk power from your rig; a very valuable instrument indeed.

With the 510's special input circuit, you can also peak the R.F. and check the modulation of Handie-Talkies. (Nice—huh?)

For both "feeble fives" and Handie- Talkies, an audio detector is provided so you can monitor the audio quality with headphones, or you can feed the detected signal to a tape recorder and decide for *yourself* how the rig sounds.

10-7

INTRODUCING

"Q-TOP"

Webster's new high-performance Citizen's Band Antenna

Now available . . .

"Q-TOP" . . . 27 megacycle Citizen's Band version of the high quality WEB-WIP top-loaded antenna used so effectively in thousands of commercial mobile installations throughout the world.

"Q-TOP" gets the most from any Citizen's Band unit! Coil is high-Q type, located near top of antenna column well away from car body. Coil is completely sealed, "Q" cannot deteriorate due to moisture. Top whip is precisely the correct length to minimize coil turns and copper losses for further increase in "Q".

HIGHLIGHTS . . .

- Weather resistant epoxy sealed coil, with strong, lightweight fiberglass covered top whip . . .
- Overall length: 87" . . .
- Operates into conventional 52 ohm coax (RG8/U, RG58/U) with low standing wave ratio . . .
- Also excellent for fixed station use . . .

Webster MANUFACTURING

317 Roebling Road, CB-H
South San Francisco, Calif.

Gentlemen: Please rush details on your new "Q-TOP" CITIZEN'S BAND ANTENNA.

Name_____

Address_____

_____

City Zone State

T.K. on C.B.

by TOM KNEITEL, 12Q1747

Last month Rex Holmes carried an item about an Argentine commercial CW station which is being heard on the low end of the band. Well, we've got one of our own, this one is located between channels 8 and 9 and comes in frequently when skip opens up.

The callsign is XDA75 and we found it listed in our records as Mexico City, and operating on 6765 kc. Actually, the 27 mc. signal is the guy's *4th harmonic,* boy speak about people who need a low-pass filter!

Speaking of Filters . . .

If you are having TVI problems you might want to drop a card or note to Mr. Harold R. Richman, Editor, Washington Television Interference Committee, 1110 Lake Blvd., Annandale, Va. Ask for the booklet entitled "TVI Aids," which is available free of charge if you also send along a 9 by 12 stamped self-addressed envelope.

The booklet will aid you in helping your neighbors with their TVI problems, and at the same time, create some good will for the CB service.

New Club Paper . . .

Today the mailman brought us a newsletter from the *Port Angeles (Wash.) CB Club.*The club has been in business since February, 1960, but this is Volume 1, Number 1, for the paper. Nice going! We would like to see some of the other long-established clubs turn out a newspaper.

Smallest Club?

What is the smallest CB club in the country? *The Bath County 11-Meter CBers* in Virginia claims their seven members gives them this rare privilege. Small though very active, the Bath County group was the first club to register for the state CB convention and the first to pay its dues.

CB Service Insurance . . .

A company in Chigaco has come up with a service contract that should appeal to all local CBers. In brief, the contract will be offered to CB groups only, and will provide free labor and a reduced parts rate for any equipment repairs necessary during the term of the contract. It will also provide for an annual checkup on each base and mobile station at no charge whatsoever. The plan (as outlined) costs each member about $15 per year. Clubs in the Windy City and surrounding areas should contact Sel, 18B0964, at Meeco, 30 W. Washington St., Chicago, for further info. Durn clever these Chicagoans!

A Little Police Work . . .

CBers figured in at least two captures recently, here are the details:

1.— CBer Frank Gasch of Bladensburg, Md., was driving home one day when he saw two suspicious looking men running across a bank parking lot and jump into a car. As the car drove away he decided he would follow. A few blocks later the car that the men were in broke down and they frantically tried to cover up the license plate while attempting to repair the car. Frank got the number anyway and radioed his wife who summoned the police. The coppers arrested the men for assault with intent to rob. They had tried to relieve one of the bank's depositors of $2,000.

2.— (and this one's a dilly) Erman Vick (6W4962) of Hendersonville, Ky., was awake one early a.m. listening to his CB rig when he heard someone on the air using his callsign. He talked to the station for about five minutes but the operator refused to properly identify himself so Erman signed off. A few minutes later Erman discovered that his car had been stolen and he then realized that it was the car thief who had just been on-the-air with his callsign.

 ONLY CBH Brings You the CALLBOOK—a listing of **all** CB'ers licensed in 1961!

Erman then got back on the air and tried to get the thief to surrender by telling him that he knew their location!

A short time later the car was abandoned and, on Erman's tips, the thief (there were actually five of them, all teenagers) was picked up.

Was Someone Hurt?

Chattanooga, Tenn., Civil Defense officials are complaining to the FCC about a reported hoax message transmitted on 11-meters which caused more than 100 National Guardsmen, volunteers, State Troopers and sheriffs' officers from Georgia and Tennessee (and two Civil Air Patrol planes) to scour the mountainous north Georgia countryside in miserable weather looking for a "trapped motorist."

The motorist was identified by his callsign as Earl Pickett of Gainesville, Ga., but when the police checked his home he was safe, well, and surprised that he had been reported missing.

The distress message, however, was heard in Texas too and four local CBers in Rossville say that they "definitely" heard the plea and that the call letters given were a "10W" call, and not "6W" as had been reported. They appealed to Texas officials to double check the possibility of an emergency actually existing there.

Next Month . . .

Our next issue, which will be out on September 10th will really be something different!

The issue will be our *HAPPY BIRTHDAY CB* edition which celebrates the 3rd anniversary of the Class D CB service. We'll take a look at the history of CB and let you in on some never before disclosed facts on what went on behind-the-scenes at the FCC when the service was first established. Learn what the unsung "Father of the CB Service" had to say about CBers sixteen years ago, and what he has to say now!

Read the vague reminiscenes of a doddering "old timer" (me) as he recalls the wild and woolly pioneer CB days of 1958.

Read an *exclusive* Horizons' report on how you may have an additional 250 CB channels, something already in the works at the FCC!

Learn where the FCC monitoring stations are. Plus the usual assortment of useful and informative features and departments.

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THE TURNER 350C
Good performance on mobile operations — citizen's band, 2-way commercial radio and amateur radio — requires a microphone designed for mobile use. Tape recorder type mikes can't do the job. The Turner 350C is a reasonably priced, ceramic microphone especially designed for quality voice reproduction. DPST switch is wired for relay operation with easily reversible terminals to allow modification (if necessary). A wiring diagram is enclosed with each microphone. Hanger button and standard dash bracket are included for mobile rig mounting. Microphone furnished with 11' retracted (five foot extended) Koiled Kord. Response: 80 to 7000 cps. Output: −54 db. List price: $16.80 complete. See your electronic parts distributor. He has the Turner 350C in stock.
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Sticks and Stones . . .

Readers have written to call our attention to an article which appeared in a recent edition of a Radio/TV-service trade magazine.

The article is an alleged interview with Mr. Curtis B. Plummer of the FCC in Washington. It infers that CB HORIZONS magazine is backing a plan to take over the 10 meter "ham" band for CB purposes and, in addition, requesting that the FCC change Part 19 to allow increased power inputs for CBers. The article called us "a source of agitation."

We wish to inform our readers that neither CB HORIZONS, nor any of its staff, have *ever* backed the above two proposals, *nor do we even personally agree with them.* We have registered our feelings with Mr. Plummer and also the publishers of the magazine *which* did not research its story fully enough to see which magazine is actually the so-called "source of agitation."

We'll keep you posted on their replies.

Someone wrote to tell us that they had heard that Border Authorities were confiscating CB mobile whips from mobile units vacationing in Canada. Presumably, the whips are returned if the mobile unit returns through the same border crossing on his way back to the U.S. We don't know for certain at this time if this is true, but we're checking it out. In the meantime, don't say we didn't tell you!

10-7

TRY THIS . . .

Need a Pilot Light?

If your transceiver wasn't built with a pilot light to indicate whether the power is on, you can change the situation by simply wiring a small neon lamp assembly (try a Dialco No. 932H) to the rig's on-off switch. A lamp such as the NE-51H will fit into the assembly and give you a nifty pilot light. Whole thing occupies less than an inch on the front panel of the rig.

Arrest that Lightning!

Here's a cheap and inexpensive lightning arrester – an auto spark plug! Just run a heavy wire (No. 14) into the threaded portion of the plug and then to the center lead of your coaxial cable. Another wire should then be soldered to the post at the top of the plug and run to a nearby ground.

VMP MONITORS

(Continued from page 26)

6Q2570	Baxter H. Lay	Chatsworth, Ga.
7W1877	Carl S. Carlson	Tarpon Springs, Fla.
8W1558	Fred W. Walley, Jr.	Brookhaven, Miss.
9W1845	Jack Palmerton*	Corpus Christi, Texas
10W3541	Tommy Hoshall	Oklahoma City, Okla.
10W4099	H. T. Murray	Muskogee, Okla.
11Q0266	Bill Howey	Altadena, Calif.
11W7262	Howard Chamberlain	Sierra Madre, Calif.
12W0784	William L. Hodgson	San Francisco, Calif.
12W4403	William W. Forrest, Jr.	San Francisco, Calif.
13W0857	Howard W. McClure*	Toledo, Oregon
13W1277	Ann Schmeltzer	Roseburg, Oregon
13W2004	Nettie Velkinburg	Albany, Oregon
15W2272	Max A. Fruedenthal	Las Cruces, N.M.
16W3514	Ray M. Lind*	Rochester, Minn.
16W3525	R. T. Stimble	Saulte Ste. Marie, Mich.
17W5910	Lawrence J. Woods	Evansdale, Iowa
18A4371	William W. Cashmore	Waukegan, Ill.
18A8931	George A. Deffner*	Villa Park, Ill.
18A9298	Harry Hoisington*	Olin, Iowa
18B0440	J. Leonard Herron	Chicago, Ill.
18B1409	Edward Rice Geary	Naperville, Ill.
18Q3485	James L. Cooper	Hammond, Ind.
18W9708	Tower Electronics & Comm.*	Waukegan, Ill.
18W8857	Richard J. Feist*	Churbusco, Ind.
19A4216	Fred E. Soules	Flint, Mich.
19W2129	Robert Yager	Tiffin, Ohio
19W3186	Gordon K. Todd	Van Wert, Ohio
19W5740	V. Richard Mossoney*	Detroit, Mich.
20Q2343	Arthur J. Ruben*	Pittsburg, Pa.
20W4219	L. Burr Scott	Wayland, N.Y.
20W1053	Colin C. Corke	Albion, N.Y.

***Monitors marked with an asterisk (*) are persons who have advance knowledge of radio communications and electronics by virtue of their professional experience in radio services other than Citizens Radio. Many are First or Second Radiotelegraph or Radiotelephone operators.**

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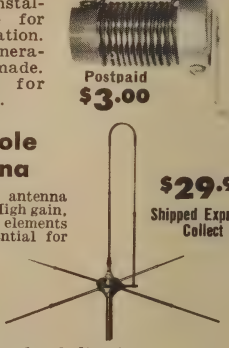

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S-9

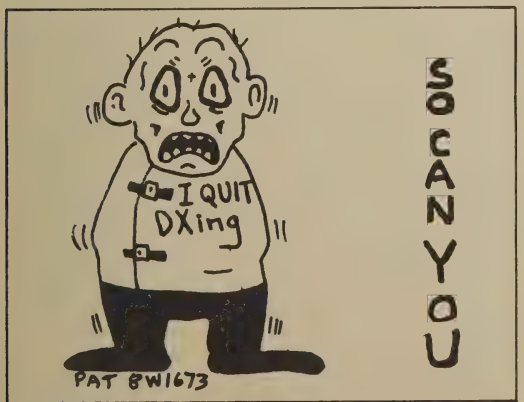
Who's Being Heard on Skip!

The following stations are being heard on skip – mind you, we said *heard* on skip, not *working* skip. Actually, many more stations than these were heard, however these guys were just solid "20" over "9" copy at our monitoring stations.

Being heard on skip can be quite upsetting to a CB operator – for one thing it means that he has a good "sky-wave," something which is obtained at a sacrifice to his direct-wave (commonly, but wrongly, called "ground-wave") signal. It means that he is not getting the maximum direct-wave coverage possible. On the other hand, showing up in our S-9 column can make him jubilant because he may not really care where his signal is "going."

Skip – in this month's column is "Short Skip," ("Sporadic E") – either single hop (400-1500 miles) or double-hop (1200-2500 miles).

14W1299 – Wenatchee, Wash.	Channel 7
14Q0606 – Walla Walla, Wash.	Channel 9
15W2628 – Antonito, Colorado	Channel 5
6Q1489 – Tuscaloosa, Alabama	Channel 2
8Q0381 – Natchez, Miss.	Channel 15
8W2547 – Baton Rouge, La.	Channel 9
24W0042 – Hawaii	Channel 5
8W1673 – Baton Rouge, La.	Channel 15
15Q0329 – Dupont, Colorado	Channel 9
9W1013 – San Juan, Texas	Channel 9
13Q0394 – Howe, Idaho	Channel 5
6W5637 – Atlanta, Ga.	Channel 11
15W1894 – Salt Lake City, Utah	Channel 9



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CB TECH TALK

Prepared for CBH by
Jim Gibson, 2W7610

(READERS: Write to Jim Gibson in care of CBH at Post Office Box 3150, Modesto, California.)

One Tube Pre-amp for Receiving

Not too long ago I was approached by 5W3359 of Albemarle, North Carolina to design an outboard pre-amplifier for his Heathkit GW-10. 5W3359 noted he was unable to hear stations thirty to forty miles away and he felt that his transceiver, like so many others in the $60- $130 price range, could be improved on receiving with the simple addition of a low noise RF stage similar to the famed TV signal boosters found in fringe areas.

The circuit which follows was put together first here at the shop and then by reader Russell, 5W3359. Others are using the circuit which has proved simple to build, and almost foolproof to make perform, even for the "first time" builder.

Here is what 5W3359 wrote after giving the pre-amp a try. "I have noticed the RF amplifier has boosted most of the local CB signals as much as two-three S units on my Heathkit GW-10. Stations as much as thirty to forty miles from my station are now being received regularily, whereas before, they had never been heard!"

Our 6CF6 pre-amp was originally constructed on a 4 by 5 by 3 inch Minibox. The only components that need to be mounted on the top of the box are the tube socket, a 140 uufd midget varible capacitor, a 1-mh r.f. choke, and a 2000 ohm 1-watt potentionmeter. Power for the one tube unit is taken from your transceiver *receiver* supply, and should be 125 volts. The power drain will be approximately twenty mils for the B-plus supply and 6.3 volts at .3 amps. We have yet to run into a transceiver supply which cannot stand the extra drain.

Coils L1 and L 2 are fabricated from a 10.5 turn length of B&W number 3015 "Miniductor." Count off three turns and cut the wire, *but not* the plastic insulation strips. Leave the three turns remaining on the short end of the coil form "as are" as this will form L1, the link to the antenna. From the three turns remaining on the short end, unwind ¼ turn (the wire between the end of the coil, and the next plastic insulator) for eventual connection to a short piece of RG-58 or RG-59 coaxial cable, which will run to the receive side of the antenna relay.

From the 7.5 turns remaining on the "long-end" count off one-half turn (the wire between the end tip on each end and two plastic spacers) from each end leaving a 6½ turn coil to form L2. Don't forget to leave the plastic insulation strips intact to hold L1 and L2 together.

Solder the end of L2 closest to L1 to the rotor terminal of C1 and the opposite lead on to the stator terminal of C1 (see schematic). Connect L1 to a two terminal tie point connector mounted on the left hand side of the chassis just left of the C1-L1, L2 combination. The RG-58 or RG-59 coax from the antenna relay will connect to these same terminal points as indicated in the schematic.

Now connect a similar piece of hook-up wire (as we assume you used between L1 and the tie points) between C6 and a similar tie point mounted for the output.

The output tie point should be mounted across the chassis from the input tie point, to keep the amplifier from oscillating.

To start the pre-amp booster perking connect a short length of coax (mentioned previously) from the receiver side of the antenna relay to the input tie point terminals on the amplifier.

Next connect an identical piece of coax from the output tie points to the antenna in-

 ONLY CBH Brings You the CALLBOOK—a listing of **all** CB'ers licensed in 1961!

put coil on the first stage of the receiver in the transceiver. You have now, effectively, placed the pre-amp booster in series with the wire which originally ran from the antenna relay to the receiver on your transceiver.

Set your transceiver dial (or crystal receive position) to a channel in the middle of the band, and tune C1 for the greatest increase in background noise in the speaker. For 27.100 mc, or the approximate middle of the band, you will find the varible capacitor (C1) peaks at about 1/8th mesh. Once this is peaked you may leave it alone as it is sufficently broad to cover the entire band without resetting.

If you have connected the power terminals to your receiver supply, the pre-amp will go on and off with your transceiver.

So there you have it. Let me know if you have any problems . . . which you shouldn't. Quite possibly you will run across further modifications and changes yourself as you build this pre-amp. Pass them along to this desk, and we will pass them along to the rest of the CB gang!

PARTS LIST

C1—140 uuf. midget variable capacitor (Bud 1876 or equivalent)

C2, C3, C4, C5, C6—0.005 uf; 600-volt ceramic disc capacitor

L1—2½ turns of No. 20 wire, 1" diameter, ⅛" from bottom of L2 (part of B&W No. 3015 Miniductor—see text)

L2—6½ turns of No. 20 wire, 1" diameter, (part of B&W Miniductor—see text)

L3—1mh r.f. choke (National R-300S or equivalent)

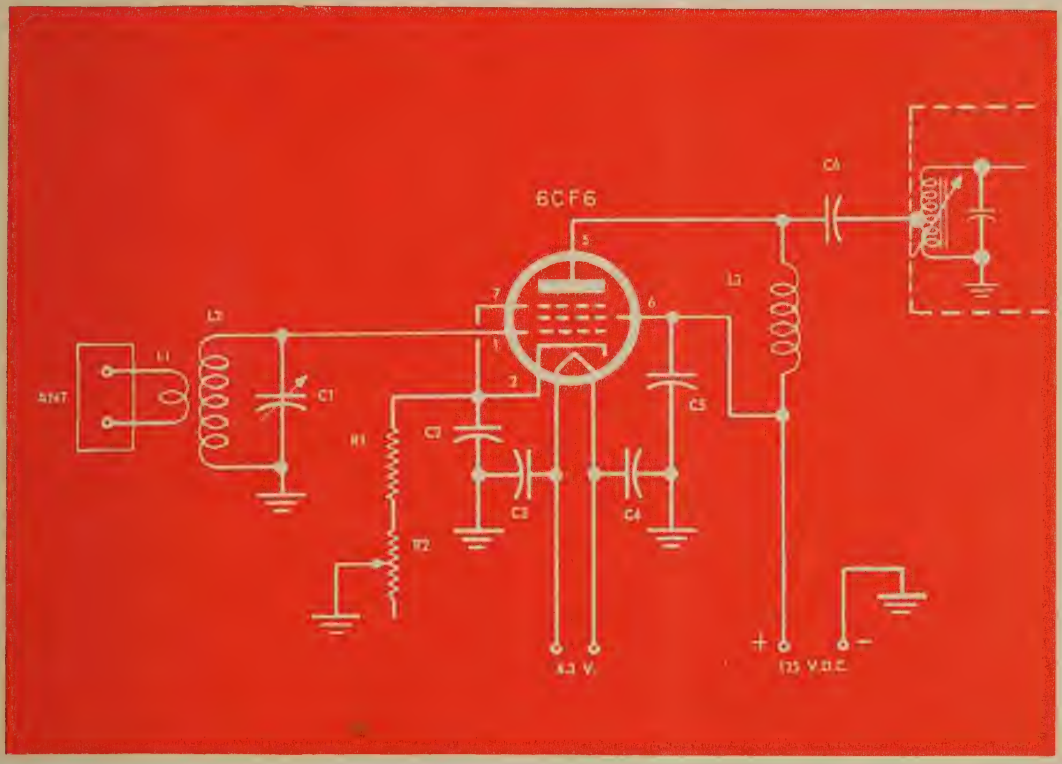
R1—100-ohm, ½ watt resistor

R2—2000-ohm, 1 watt potentiometer (sensitivity control)

One—6CF6 tube

¼" x 5" x 3" minibox or equivalent, misc. terminal strips, tie points, tube socket and hook-up wire.

10-7



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CLYDE'S CORNER

by Clyde D. Moore, 9WO219

Something new has been added to CBH. Starting in the next issue, I will be CBH's traveling reporter, gathering on-the-spot news and information about CBers, their clubs and activities. Acting as goodwill ambassador for CBH, I hope to bring CBers closer together.

I will be telling you about how CBers have joined with civil defense units to help in times of emergencies — how they have saved lives and property during floods, hurricanes, fires and other disasters. These stories will possibly include you and other CBers you know.

In the next few days I will leave my home here in Pipe Creek, Texas, where I have spent the past twelve of my thirty years, and begin a tour of the forty-eight continental states with my wife, Betty. In addition to gathering material for CBH, I'll be working on a book that I am writing about off-beat places, people and things.

We will start in our new, light blue Chevrolet *GREENBRIER* sports wagon. We have equipped the wagon with two CB rigs, a Johnson and an EICO. The Johnson has nine channels, 1, 3, 5, 7, 8, 9, 11, 15 and 20. The EICO runs on 1, 2, 3, 4, 7, 8, 9, 11, 15, 16 and 20. Very shortly I'll have all twenty-three channels in the sets. I'll be monitoring channels 9 and 11 most of the time, however I will monitor the other channels as well, especially the working channels in each of the areas I roam. I have mounted two 102½ inch whips on the *GREENBRIER*, one on the front and one on the rear, to permit both sets to run simultaneously.

My schedule is not certain at this time, however I hope first to go to Oklahoma City, then across to California, up to Washington and then to New York .We will then drop down into Florida and cross through the middle states back to Texas. Our trip will last about four years and *then* we hope to cover Alaska, Hawaii and Puerto Rico.

Next month I will report to you about the flood in San Antonio, Texas, and about the new club in Corpus Christi, Texas. I also plan to cover other clubs in Texas and the southern part of Oklahoma. There will be photos of CBers from all parts of 9W and 10W land.

While on my trip I will be trying to interest motels in CB and help to get them on the air as 24 hour monitors. This will help in smaller towns that have CB Civil Defense and volunteer fire departments. It would also be of great assistance to traveling CBers wanting road information and room reservations, or in case of tire trouble or road accidents. In the larger towns and cities it *could* save someone's life to have a 24-hour monitor channel to summon immediate police or medical aid in the normally desolate "wee-small hours."

If the motel operators whom I speak to feel that they could effectively utilize CB, I will help them to choose the equipment and antennas and also to help them obtain their

license. Each month I will report to you the names and locations of these motels and their monitoring channels.

By the way, I received my CB license in March of 1959. The call here is 9W0219 and the handle is "Clyde." Mark me in your Callbook so you won't forget, it's the twelfth from the top, first 9W page in the first International Callbook (the blue one).

I'll be giving you a call when I come to your town, so be listening and watching for me (the *GREENBRIER's* license is KF-397, Texas). I'll be wearing, true to Texas style, cowboy boots and a 10-gallon hat.

10-7

SIGNAL "10" CODES FOR CB USE

By Clyde Moore, 9W0219

CB'ers should get in the habit of using their CB rigs in a business-like manner. This should be done so that whenever a person, who is not familiar with two-way radio procedure and techniques overhears a transmission, he will get the impression that it is something more than just a radio party-line. If CB'ers would get in the habit of using "10" codes, their transmissions would be shorter and also become more effective. There have been many number codes, however we feel that these should be used by CB'ers nationally.

10-1 Receiving poorly, unable to copy.
10-2 Receiving well, signals good, copy good.
10-3 Stop transmitting.
10-4 OK, message received, affirmative, will do.
10-5 Please relay message.
10-6 Busy at this station, please stand by.
10-7 Out of service, leaving the air.
10-8 In service, on the air, subject to call.
10-9 Repeat, did not understand clearly.
10-10 Transmission completed, channel clear.
10-11 Talking too rapidly, slow down on speech.
10-12 Visitors present.
10-13 Weather and road conditions.
10-14 Correct time.
10-16 Please pick up ---------- at ----------.
10-18 Is there anything for me/us at this time?
10-19 No, nothing for you at this time.
10-20 Location.
10-21 Please call station ---------- by telephone.
10-23 Please stand by as I will call you later.
10-24 Technical trouble at this/that station.
10-25 Disregard last information, forget.
10-26 Do you have radio contact with station ----------?
10-27 Do you have contact with----------in person?
10-28 Emergency trouble at this station.
10-29 Emergency help/police, etc. is on the way.
10-30 Does not conform to rules and regulations, illegal.
10-33 Emergency traffic at/on this station/channel.
10-34 Clear this channel until emergency is over.
10-35 Confidential information.
10-36 Correct time at your station?
10-41 Tune to channel ---------- for test.
10-42 Tune to channel ---------- for emergency.
10-65 Clear for message.
10-68 Please repeat message very slow.
10-84 What is your telephone number?
10-88 Have talked the legal limit give call number.
10-89 Have talked over the legal limit clear the channel and stand by five minutes.
10-91 Talk closer to mike.
10-92 Talk farther from mike.
10-93 Frequencies to be checked.
10-94 Please give short test count.
10-95 Test with no modulation.
10-99 Unable to receive your signals.

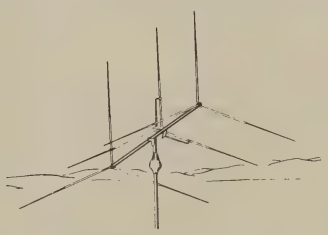
We should always remember that CB is a medium for "necessary" communications, whether it be for personal or business use. All CB'ers should learn the 10 signals and use them during each transmission. It's part of improving the band.

10-7

TRY THIS . . .

Unknown Tubes?

There's hardly a do-it-yourselfer around electronics who hasn't run across an unidentifiable tube. Type numbers seem to fade from tubes as they age and a good tube can become useless when this happens. If you have some of these babies, why not try holding them up to a strong light and looking "through" the tube for the vanished numbers. Most tubes will reveal their true identity under this type of examination.



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CB AND SUNSPOTS

An accurate Forecast of DX Interference Conditions on the 27 Mc. Citizens Band for the Period August 15—September 20

27 meggers troubled with cross country interference during the next 40 days are to be treated to what many "skip-experts" have forecast as the quietest period to come along in five years. As August turns to September, summertime short-skip (i.e., 400-1,200 miles) drops into the background for all but the southern-most located CB operators. **The fall season ahead** promises to bring an interesting variety of "long-skip" covering distances of 1,600-2,500 miles, but the next forty days shows little promise of either form of DX. In one short sentence, **"we are between seasons."**

Not that there won't be **any forms** of DX available . . . merely that DX showing will be scarce, weak and spotty; good news indeed for 27 megacycle operators who have been plagued with skip interference during the past ninety days.

WHAT THERE WILL BE . . .

Generally speaking, conditions for DX reception (or inversely, DX interference) will improve in early September. Openings which do occur in August fall into two categories:

(1) The last of the summer period short skip, occurring between 4:00 P.M. local time and 8:00 P.M. local time.

(2) The first of the fall period long (F2) skip occurring around noon local time for east coast CB'ers, during mid-morning for west coast CB'ers, and again around early evening for east coast CB'ers, and mid-afternoon for west coast CB'ers.

FORECAST

The following paths are expected to be open "for DX" on at least fifty per cent of the days between August 10 and September 20. Openings will be more frequent in September than in August.

PATH	TIME—EST
5W-6W-7W to 11W-12W	12 Noon-3 P.M.
	6 P.M.-8 P.M.
5W-6W to 13W-14W	1 P.M.-2 P.M.
	6 P.M.-7 P.M.
15W to 1W-2W-5W-7W	1 P.M.-2 P.M.
9W to 1W	2 P.M.-3 P.M.
8W-9W to 13W-14W	5 P.M.-7 P.M.

Other paths expected to open only on rare-sporadic occasions with no measure of regularity.

10-7

Continental call area map for spotting locations of DX callsigns heard on 27 mc. Wall size versions (15" by 24") of this map are available from International Crystal Mfg. Co., 18 North Lee, Oklahoma City, Okla. They're 25¢ each. Tell George (10W0376) that CBH sent you and he'll rush your order through.

What About the Future of CB?

The October issue of CB Horizons pulls from the crystal ball and history books **a super-special** BIRTHDAY ISSUE as Class D Citizens Band Radio celebrates its THIRD BIRTHDAY!

(Please Turn Over)

HERE ARE SOME OF THE MANY FEATURES IN STORE for October 1961 CB HORIZONS

In the Mails September 10th

★ **THE STRANGE AND FANTASTIC "CITIZENS RADIO SERVICE"**

Predicted as early as 1945, by then-FCC Commissioner E. K. Jett — "The Father of the Citizen's Radio Service"

and . . .

★ **AN FCC OFFICIAL REPORTS ON THE CITIZENS BAND RADIO BOOM!**

★ **REMINISCENCES OF A CLASS D PIONEER**

Unbelievable antics of the 1958-59 11-meter band which nobody talks about anymore.

and . . .

FOR THE FIRST TIME IN PRINT

★ **FCC MONITORING STATIONS COVERAGE MAP**

★ **THE FUTURE OF CB RADIO —**

CB Horizons has uncovered from FCC Washington files a masterplan covering the future of Citizens Radio . . . **including the proposed allocation of 250 brand new CB channels!** Learn all about the "Expanding CB Frontier" in this exclusive copyrighted report.

PLUS . . .

HOW TO GUY YOUR TOWER — BUILD AN ULTRA-INEXPENSIVE (in fact, dirt-cheap) 11-METER TWO ELEMENT BEAM — PROPER OPERATING PROCEDURES FOR CB — TUNING YOUR MOBILE ANTENNA and much more — plus all of the regular useful columns!

FLASH — FCC CRACKDOWN ON CB COMING
READ ALL ABOUT IT IN OCTOBER!

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Classified rate $5.00 per five lines (minimum) for non-commercial displays. Commercial displays $10.00 per five lines (minimum). Payable in advance. Deadline for October issue—September 1.

AUTOMOTIVE GENERATOR NOISE FILTER — This filter eliminates the noises from the generator at the source; on the generator. It is pre-tuned to CB frequencies and sealed against moisture, oil and dust. Simple to install, efficient in operation. Only $3.00 postpaid. If your dealer does not stock, write: **Ben N. Bartlett, 11W5592, 1815 W. 85th St., Los Angeles 47, Calif.**

CB—QSL—SWL—WPE CARDS! Printed in one or more colors from type, line drawings or photographs. QSO 5x3 file cards. Send 10c for samples. **MALGO PRESS, 1937 Glendale Ave., Toledo 14, Ohio.**

CB QSL CARDS — 100 four-color $3.70 postpaid. Samples ten cents or send twenty-five cents and receive large selection and free DANGER HIGH VOLTAGE sign. Dick Stauffer W8VXK (CB license pending), 1996 N. M-18, Gladwin, Michigan.

CB-WPE-QSL CARDS — Samples ten cents, with catalogue twenty-five cents. **BROWNIE 3W1974/W3CJI, 3110C Lehigh St., Allentown, Pa.** Order yours from Hamdom's leading QSL printer since 1939.

CBers hear only the channel you tune. Dual conversion adapter kit, all parts, schematic, pictorial for HE-15 & 15A, TR-800, 910, RA395, 449, etc. $14.95, with tubes $16.95 or $5.00 deposit plus C.O.D. **BAINBRIDGE RADIO, 2649 Bainbridge Ave., New York 58, N.Y.**

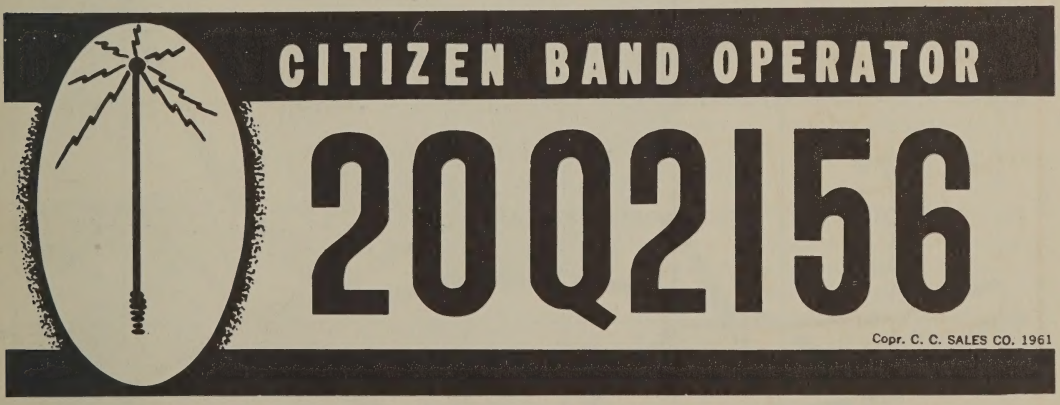
CB-BEEPER-TONE SIGNALER FOR CODED CALLING. This is a transistorized, self powered unit that does a real job. NOT a neon bulb gadget or gimmick, but commercial type design and construction. Deluxe CB-BEEPER is $7.95, postpaid. Requires one simple connection, works with ANY CB transceiver. Full instructions.

ENGINE NOISE DRIVING YOU NUTS? Filter-Kit consists of GENERATOR TRAP, DIST. SUPPRESSOR & PLUG SUPPRESSORS. Complete kit with instructions $6.95 postpaid.

TVI GOT YOU IN TROUBLE WITH FCC? Power line filter will prevent radiation into a.c. line. $4.95 postpaid with instructions. Write for catalogue sheets. **Martin Development, P. O. Box 82, San Antonio, Texas.**

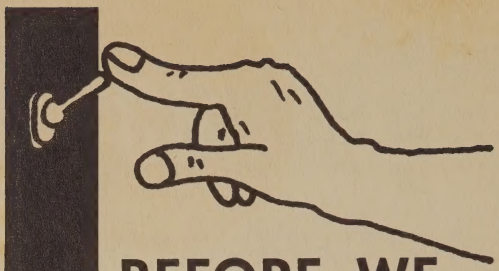
CRYSTAL SWAP-SHOP—Unwanted crystals coming out of your sockets? If they're good why not swap them for ones you've always wanted? Send 'em with the channel number and type of CB rig they're for, plus fifty cents per channel. Don't forget to list the type of rig you need replacement crystals for and your 1st, 2nd, and 3rd choices. We'll hold your order till one comes in if it's not in stock. We reserve right to refuse to accept unsatisfactory crystals. **CRYSTALSWAP, 1519 Scenic Drive, Modesto, Calif.**

Your Own Personal Call Number!



Your call in brilliant blue lettering on a reflecting white background! Not a decal, but high quality reflective scotchlite! Will not fade! Full 8 inches long by 3 inches high! $2 each, with additional CB-tags having same call only $1.50 each. For immediate service, rush check or money order and your call to:

C. C. SALES COMPANY, R.D., NEW SALEM, PA.



BEFORE WE SIGN OFF

D.C. FLASHES!!!

By Rex Holmes
"Our Man in Washington"

"Not Blasting Off Their Seats"

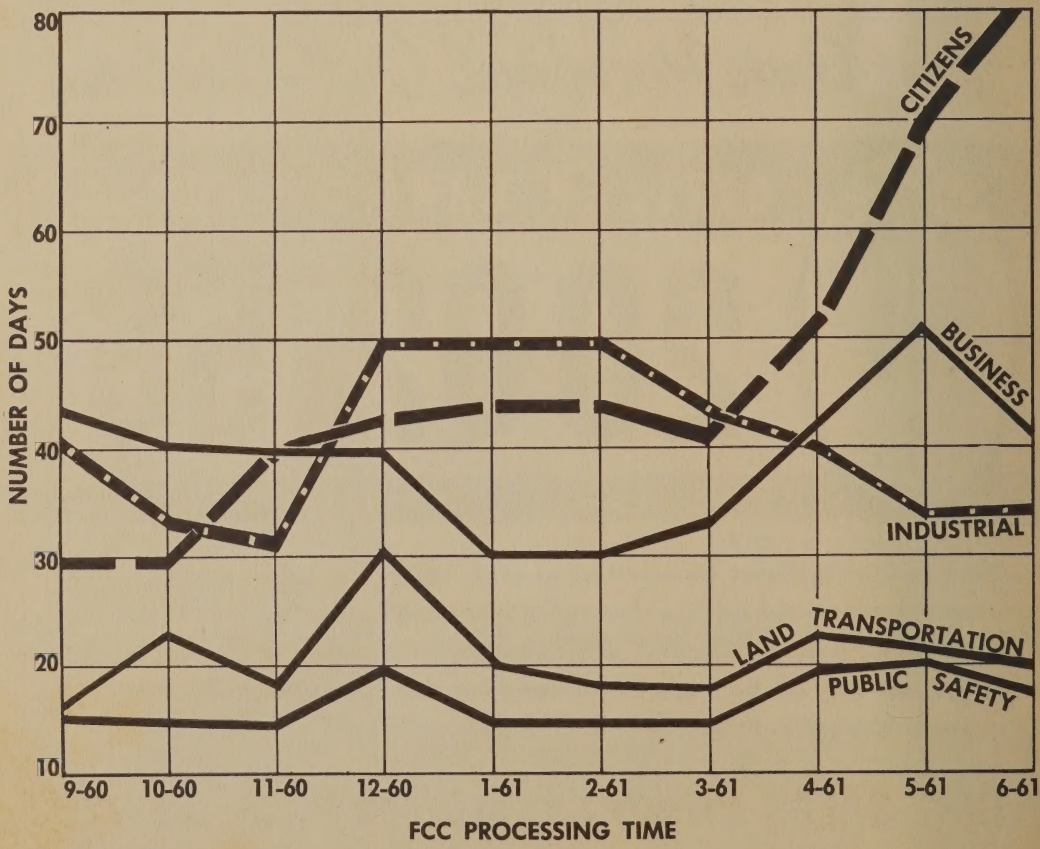
The FCC really seems to be bogging down deeper and deeper into the CB application quicksand. Fig. 1 is what they are willing to admit to regarding processing times for CB and several other services.

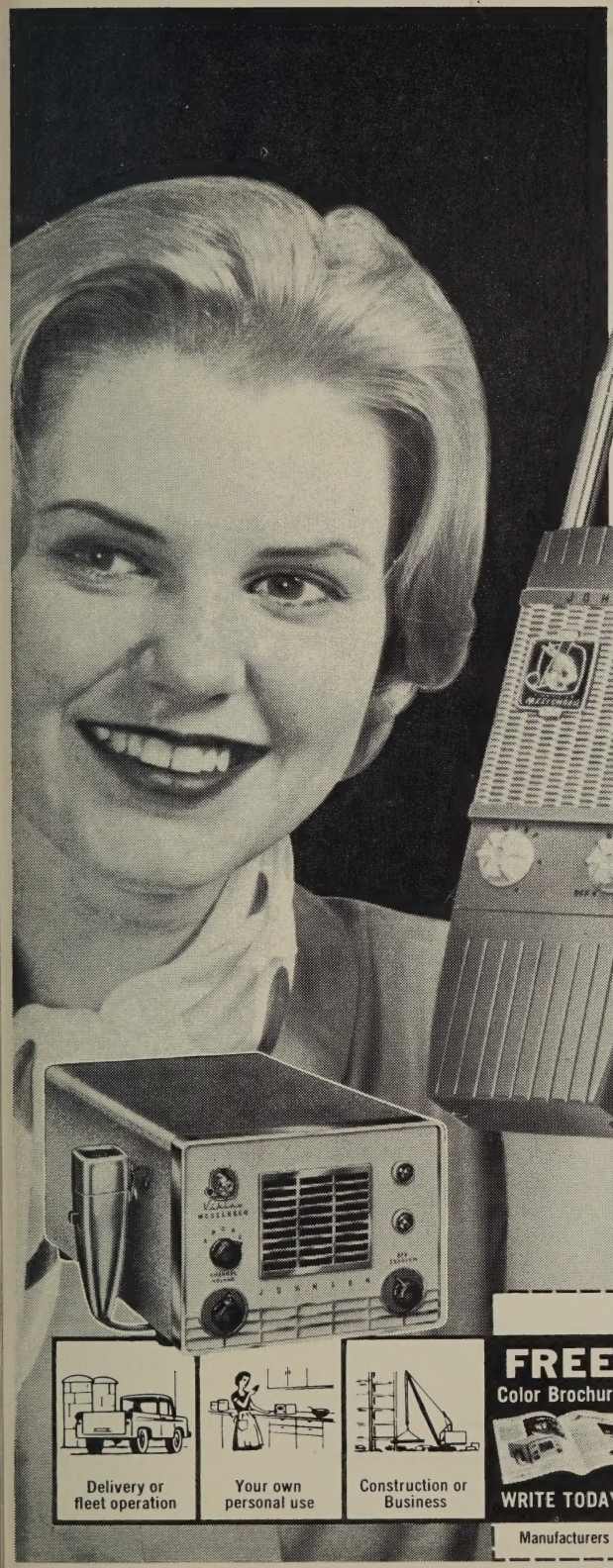
In the words of an "inside" Washington observer, "It sure doesn't seem that the FCC is blasting off their seats to get through these applications."

Notice on the chart that, with the exception of CBers, the other services have maintained their application processing time – or even lessened it. *CBers have had their processing time doubled!* It looks like the FCC just threw up their hands in March and said, "Oh, the heck with it!" Remember this too, the 85-day June processing figure (the FCC says) "reflects the number of days from receipt of an application *in good order* for routine processing time to the time of the completed authorization is put in the mail. It does not, therefore, include the time required for the application to reach the Commission from the date of mailing or time the authorization is enroute to the licensee." And if they send it back to you for clarification, you can stick another few weeks on to the processing!

File your application now to be on the air for Christmas (it may get worse before it gets better)!

10-7





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• No license required—may be used at once! • Meets FCC requirements for use with licensed Citizens' Band stations, too!

This is the new "Personal Messenger"—a superbly engineered 2-way crystal-controlled transceiver so compact it fits in your hand—so flexible it can be used in thousands of applications! 11 transistors and 4 diodes—superheterodyne receiver with exclusive tuned R.F. amplifier gives you twice the sensitivity and *more than 40% more range than units with conventional circuitry! Powerful two-stage transmitter delivers more power output than similar units with the same rated input!* Unmatched audio intelligibility and razor-sharp voice reproduction—automatic noise limiter—automatic volume control—positive squelch control—elastic hand strap—operates on penlight or rechargeable nickel-cadmium batteries.

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ILLUSTRATED AT LEFT—The Viking "Messenger"—maximum legal power Citizens' Band crystal-controlled transceiver. Excellent receiver sensitivity and selectivity—highly efficient transmitter punches your signal home! Built-in squelch—AVC—ANL. With tubes, push-to-talk microphone and crystals for 1 channel. **FROM $134.95**

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